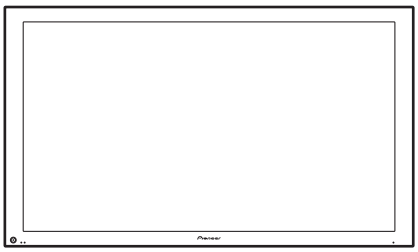
Pioneer sound.vision.soul

# Service Manual



PDP-5080XA

ORDER NO.
**ARP3445**

## PLASMA TELEVISION

# PDP-5080XA
# PDP-5080XD
# PDP-508XD

### THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

| Model | Type | Power Requirement | Remarks |
|---|---|---|---|
| PDP-5080XA | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |
| PDP-5080XD | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |
| PDP-508XD | WYV5 | AC 220 V to 240 V | |
| | WYVIXK5 | AC 220 V to 240 V | |

For details, refer to "Important Check Points for good servicing".

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ⓒ**PIONEER CORPORATION 2007**

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# SAFETY INFORMATION

**This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

**WARNING**
**This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.**

**Health & Safety Code Section 25249.6 - Proposition 65**

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

## SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

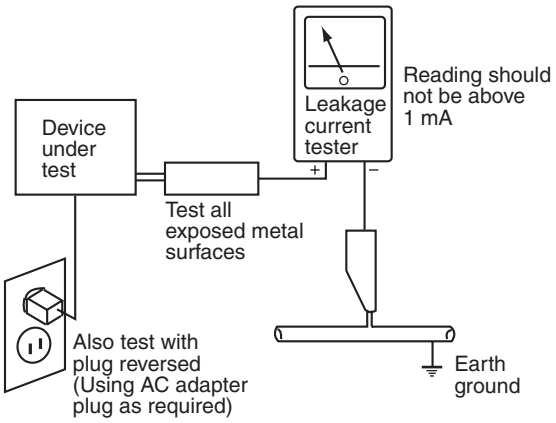
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

## Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

## Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Reading should not be above 1 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.**

## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## [Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

### 1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

### 2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

### 3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

### 4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

### 5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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# 1. SERVICE PRECAUTIONS

## 1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 °C.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 °C in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

# 1.2 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

## ■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

## ■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION " are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

POWER SUPPLY UNIT ..... (205 V)
50 X DRIVE Assy..... (205 V)
50 Y DRIVE Assy.....(-230 V to 500 V)
50 SCAN A Assy..... (-230 V to 500 V)
50 SCAN B Assy..... (-230 V to 500 V)

: Part is Charged Section.

: Part is the High Voltage Generating Points other than the Charged Section.

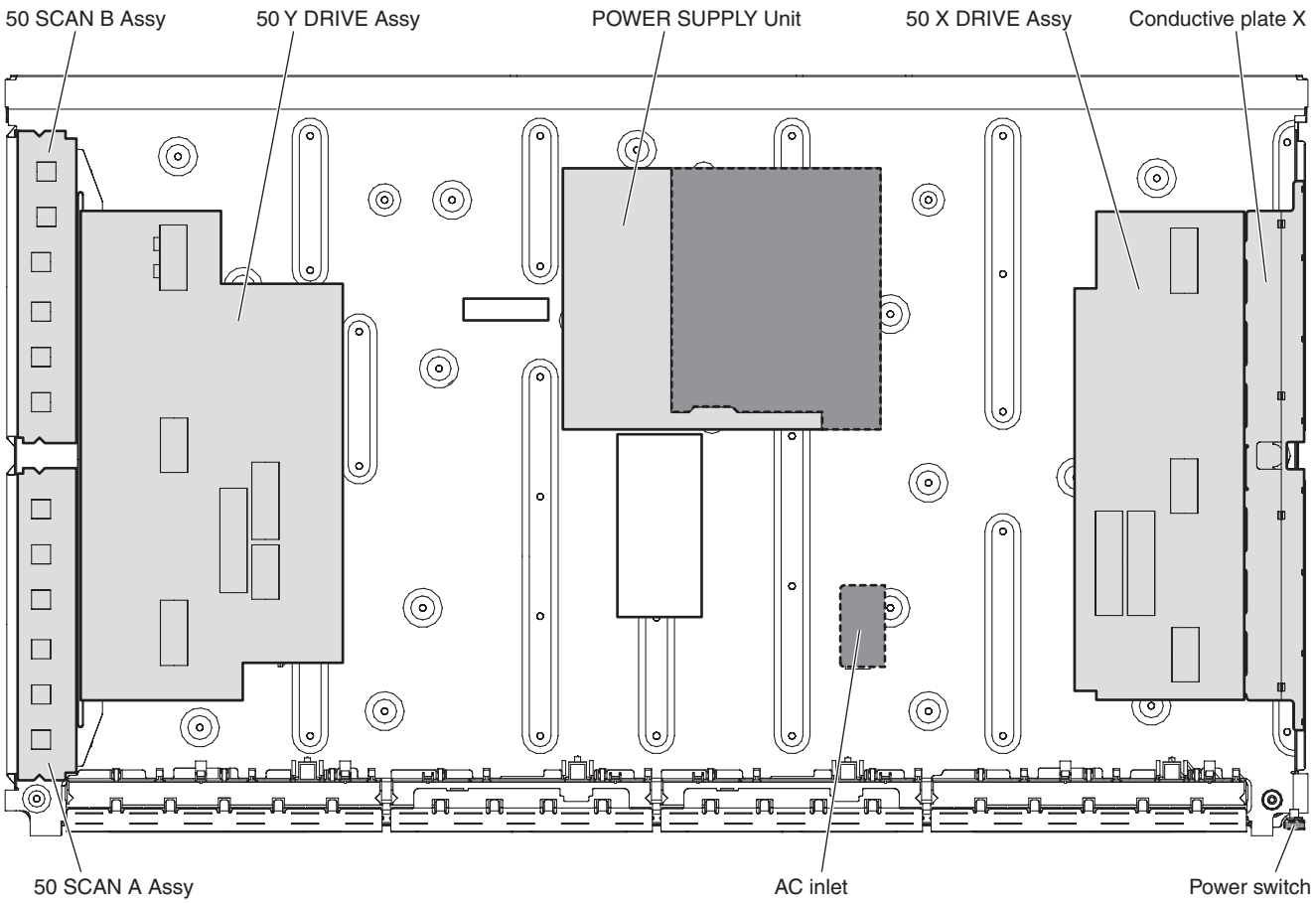
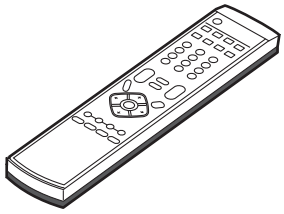



Fig. High Voltage Generating Point (Rear view)

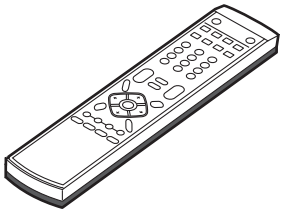
# 2. SPECIFICATIONS

## 2.1 ACCESSORIES

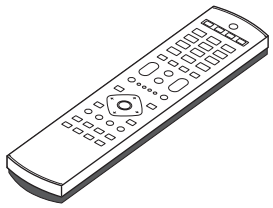
- Remote control unit (PDP-5080XA) (AXD1553)



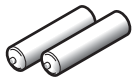
- Remote control unit (PDP-5080XD) (AXD1552)



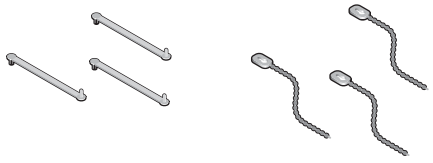
- Remote control unit (PDP-508XD) (AXD1551)



- Dry cell battery (R06, AA)

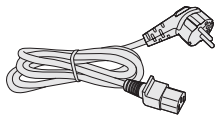


- Binder Assy (AEC1908)
  - Speed clamp: ×3
  - Bead band: ×3



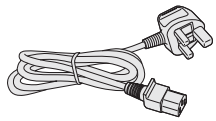
- Ferrite core (L5321) (ATX1039)
  - Ferrite core
  - Cable tie (for ferrite core)

- Power cord (ADG1214)



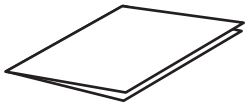
- Cleaning cloth (AED1285)

- Power cord (ADG1223)

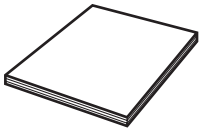


WYVIXK5 type only

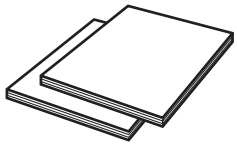
- Warranty card



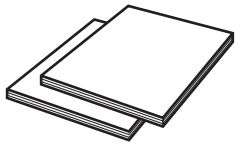
- Operating instructions (PDP-5080XA)
  (ARE1478: WYV5)
  (ARE1477: WYVIXK5)



- Operating instructions (PDP-5080XD)
  (ARE1485: WYV5)
  (ARC1602: WYV5)
  (ARE1476: WYVIXK5)
  (ARC1587: WYVIXK5)



- Operating instructions (PDP-508XD)
  (ARE1484: WYV5)
  (ARC1601: WYV5)
  (ARE1475: WYVIXK5)
  (ARC1586: WYVIXK5)



# 2.2 SPECIFICATIONS

## ■ PDP-5080XA

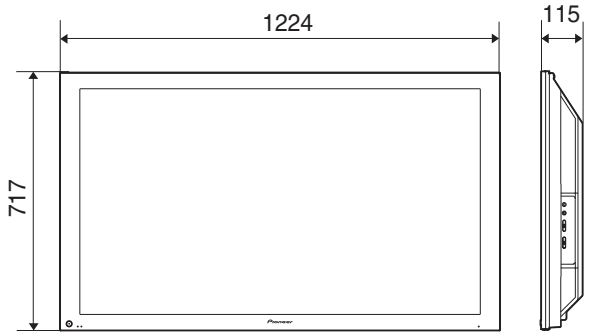
| Item | | | 50" plasma television, model: PDP-5080XA | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 361 W (0.3 W Standby) | |
| Weight | | | 34.4 kg (75.8 lbs.) | |
| Colour System | | | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| TV Function | Receiving System | | B/G, D/K, I, L/L' | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in*1 | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link*2), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link*2), HDMI in*1 | |
| | | INPUT 4 | HDMI in*1 | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

*1 This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

*2 Switchable from menu.

*Design and specifications are subject to change without notice.*

### • Dimensions




Unit: mm

## PDP-5080XD

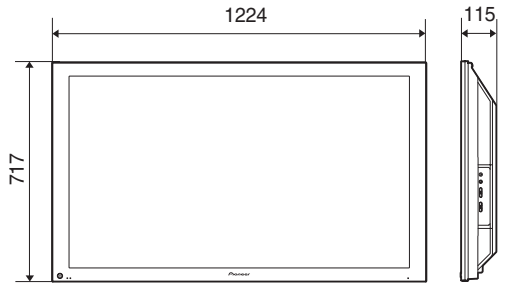
| Item | | | 50" plasma television, model: PDP-5080XD | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 363 W (0.4 W Standby) | |
| Weight | | | 34.5 kg (76.1 lbs.) | |
| Colour System | | Analogue | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| | | Digital | PAL/SECAM | |
| TV Function (Analogue) | Receiving System | | B/G, D/K, I, L/L' | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| TV Function (Digital) | Receiving System | | DVB-T(2K/8K COFDM) | |
| | Tuner | VHF/UHF | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz) | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | MPEG layer I/II, Dolby Digital | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in *1 | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link *2), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link*2), HDMI in*1 | |
| | | INPUT 4 | HDMI in*1 | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | | DIGITAL OUT | Digital audio output (Optical) | |
| | | COMMON INTERFACE | CA Module | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

*1 This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

*2 Switchable from menu.

*Design and specifications are subject to change without notice.*

### • Dimensions




Unit: mm

## PDP-508XD

| Item | | | 50" plasma television, model: PDP-508XD | |
|---|---|---|---|---|
| Number of pixels | | | 1365 x 768 pixels | |
| Audio amplifier | | | 17 W + 17 W (1 kHz, 10 %, 6 Ω) | |
| Speakers | | | – | |
| Sound Effect | | | SRS FOCUS/SRS/SRS TruBass | |
| Power Requirements | | | 220 V to 240 V AC, 50 Hz/60 Hz, 364 W (0.4 W Standby) | |
| Weight | | | 34.5 kg (76.1 lbs.) | |
| Colour System | | Analogue | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| | | Digital | PAL/SECAM | |
| TV Function (Analogue) | Receiving System | | B/G, D/K, I, L/L' | |
| | Tuner | VHF/UHF | E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | NICAM/A2 | |
| TV Function (Digital) | Receiving System | | DVB-T(2K/8K COFDM) | |
| | Tuner | VHF/UHF | VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz) | |
| | Auto Channel Preset | | 99 ch, Auto Preset, Auto Label, Auto Sort | |
| | STEREO | | MPEG layer I/II, Dolby Digital | |
| Terminals | Rear | INPUT 1 | SCART (AV in, RGB in, TV out), HDMI in *1 | |
| | | INPUT 2 | SCART (AV in/out, S-VIDEO in, AV link *2), Component Video in, AUDIO in | |
| | | INPUT 3 | SCART (AV in/out, S-VIDEO in, RGB in, AV link *2), HDMI in *1 | |
| | | INPUT 4 | HDMI in *1 | |
| | | CONTROL OUT | 1 | |
| | | SPEAKERS | 6 Ω to 16 Ω | |
| | | Antenna | 75 Ω Din Type for VHF/UHF in | |
| | | PC INPUT | Analogue RGB in, Audio in | |
| | | AUDIO OUT | AUDIO out (Fixed) | |
| | | SUB WOOFER | Variable | |
| | | DIGITAL OUT | Digital audio output (Optical) | |
| | | COMMON INTERFACE | CA Module | |
| | Side | INPUT 5 | S-VIDEO, AV in | |
| | | USB | USB in *3 | |
| | | PHONES | 16 Ω to 32 Ω recommended | |

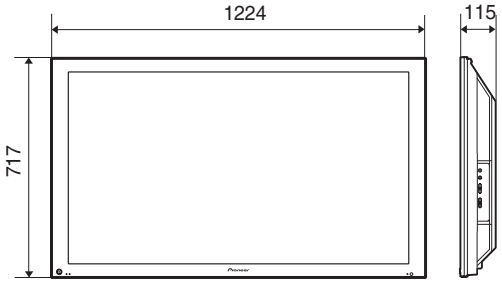
*1 This conforms to HDMI1.3 and HDCP1.1. HDMI (High Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

*2 Switchable from menu.

*3 This conforms to USB 1.1 and 2.0 specifications.

*Design and specifications are subject to change without notice.*

### • Dimensions

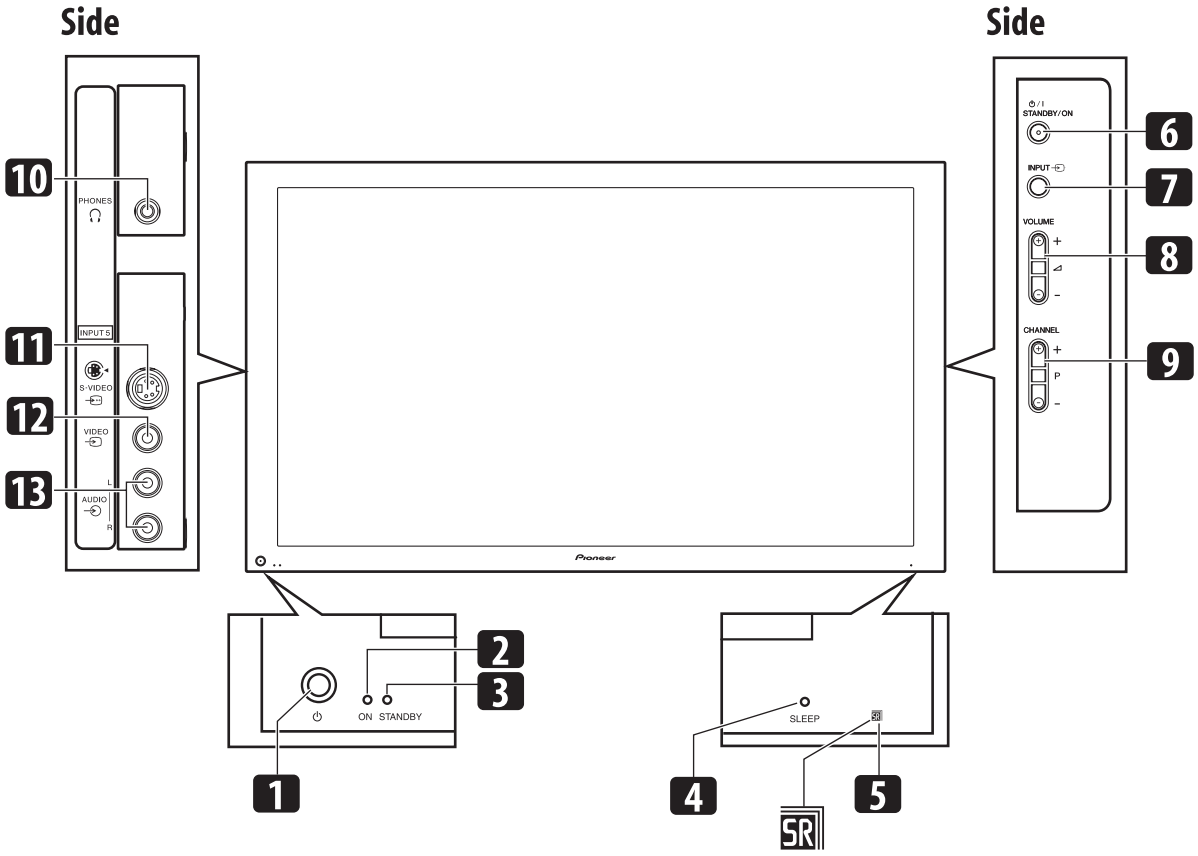



Unit: mm

# 2.3 PANEL FACILITIES

## ■ PDP-5080XA

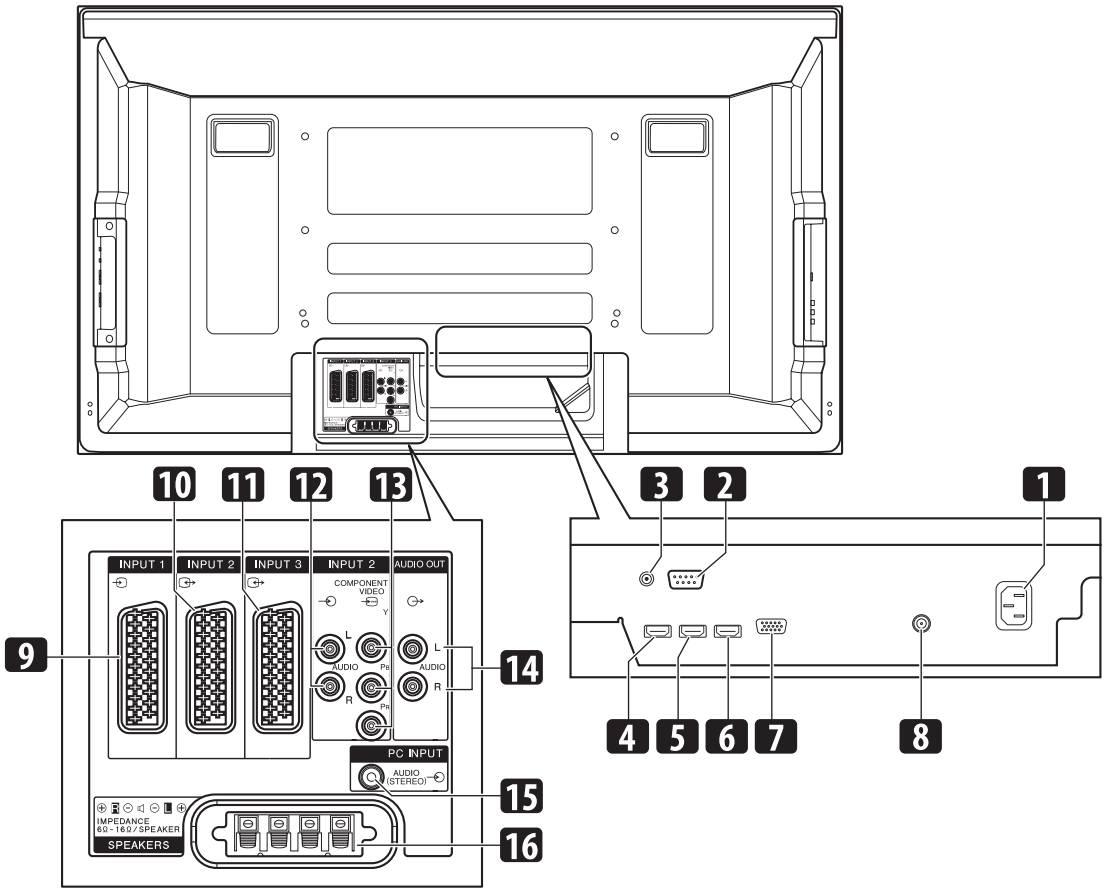
### • Front Section




**1** ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
**2** POWER ON indicator
**3** STANDBY indicator
**4** SLEEP indicator
**5** Remote control sensor
**6** **STANDBY/ON** button
**7** **INPUT** button
**8** **VOLUME +/–** buttons
**9** **CHANNEL +/–** buttons
**10** PHONES output terminal
**11** INPUT 5 terminal (S-VIDEO)
**12** INPUT 5 terminal (VIDEO)
**13** INPUT 5 terminals (AUDIO)

## ■ PDP-5080XA

### • Rear Section

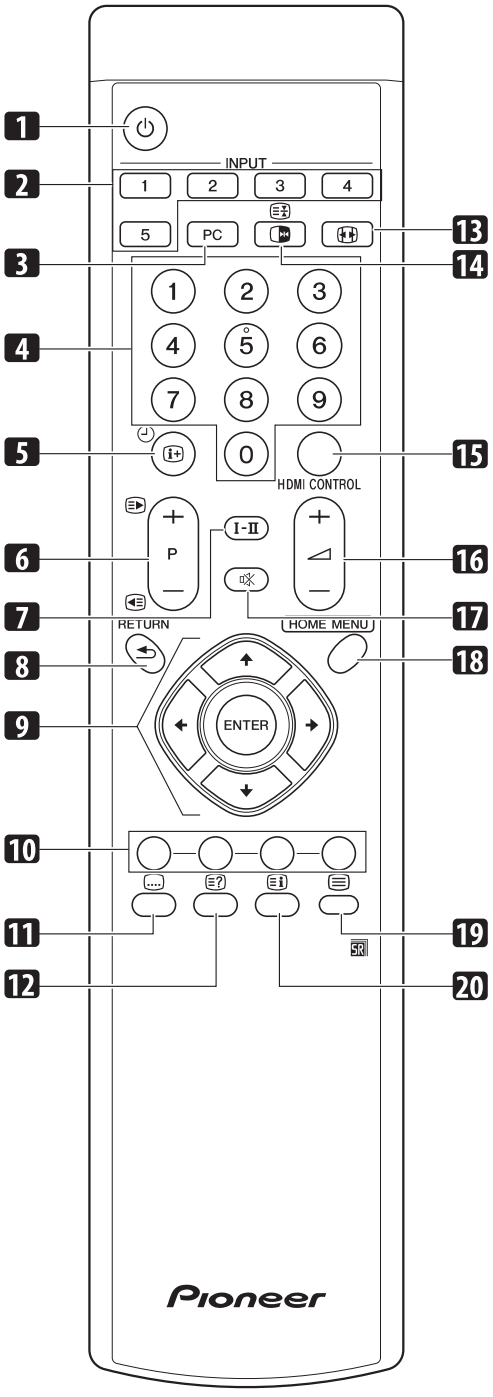



**1** AC IN terminal
**2** RS-232C terminal (used for factory setup)
**3** CONTROL OUT terminal (supports **SR+**)
**4** INPUT 1 terminal (HDMI)
**5** INPUT 3 terminal (HDMI)
**6** INPUT 4 terminal (HDMI)
**7** PC INPUT terminal (Analogue RGB)
**8** ANT (Antenna) input terminal
**9** INPUT 1 terminal (SCART)
**10** INPUT 2 terminal (SCART)
**11** INPUT 3 terminal (SCART)
**12** INPUT 2 terminals (Audio)
**13** INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$)
**14** AUDIO OUT terminals
**15** PC INPUT terminal (Audio)
**16** SPEAKERS terminals (right/left)

## ■ PDP-5080XA

### • Remote Control Unit

Point the remote control at the plasma television to operate.




**1** ⏻
Turns on the power to the plasma television or places it into the standby mode.

**2 INPUT**
Selects an input source of the plasma television. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”)

**3 PC**
Selects the PC terminal as an input source.

**4 0 to 9**
TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

**5**
Displays the channel information.

**6 P+/P–**
TV/External input mode: Selects a channel.

/
Teletext mode: Selects a page.

**7 I–II**
Sets the sound multiplex mode.

**8 RETURN**
Restores the previous menu screen.

**9** ↑/↓/←/→
Selects a desired item on the setting screen.

**ENTER**
Executes a command.

**10 Colour (RED/GREEN/YELLOW/BLUE)**
Teletext mode: Selects a page.

**11**
Jumps to Teletext subtitle page.

**12**
Displays hidden characters.

**13**
Selects the screen size.

**14**
TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

**15 HDMI CONTROL**
Displays the HDMI Control menu.

**16** +/–
Sets the volume.

**17**
Mutes the sound.

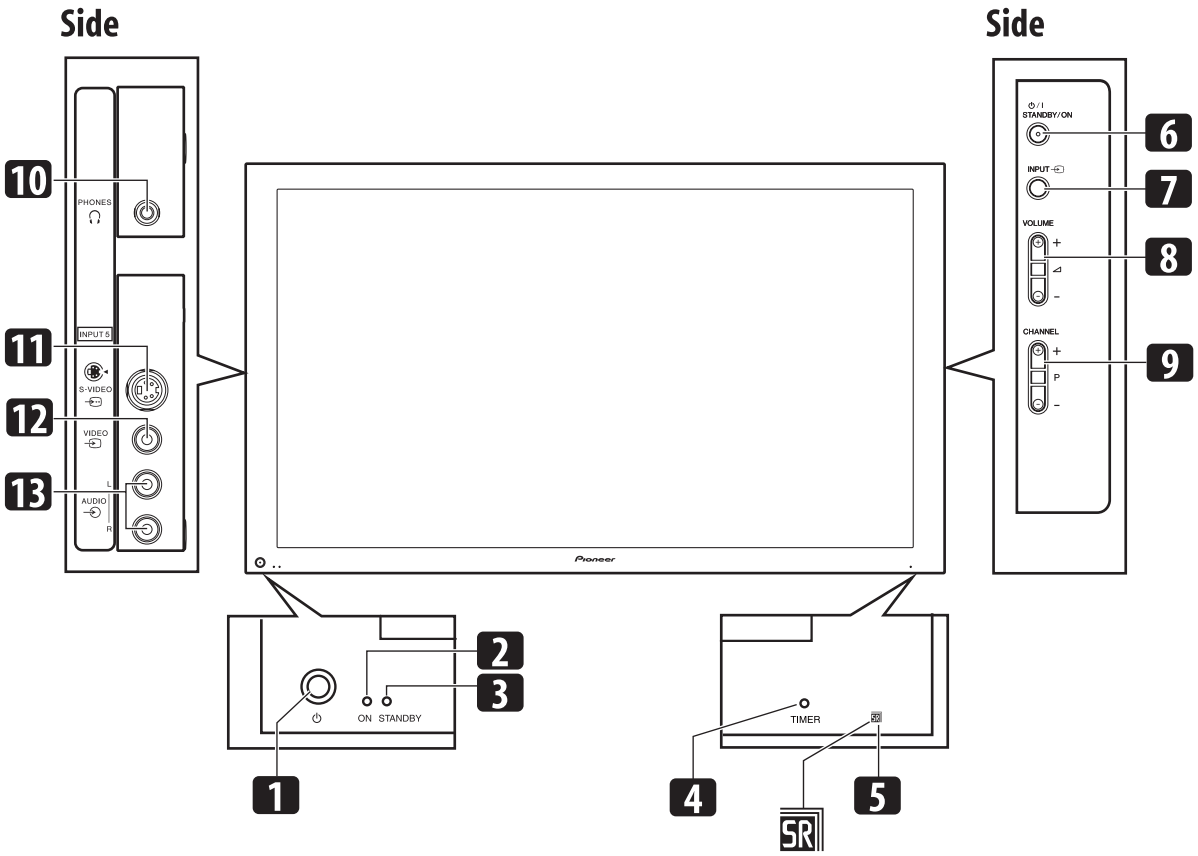
**18 HOME MENU**
Displays the HOME MENU screen.

**19**
Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

**20**
Displays an Index page for the CEEFAX/FLOF format. Displays a TOP Over View page for the TOP format.

## ■ PDP-5080XD

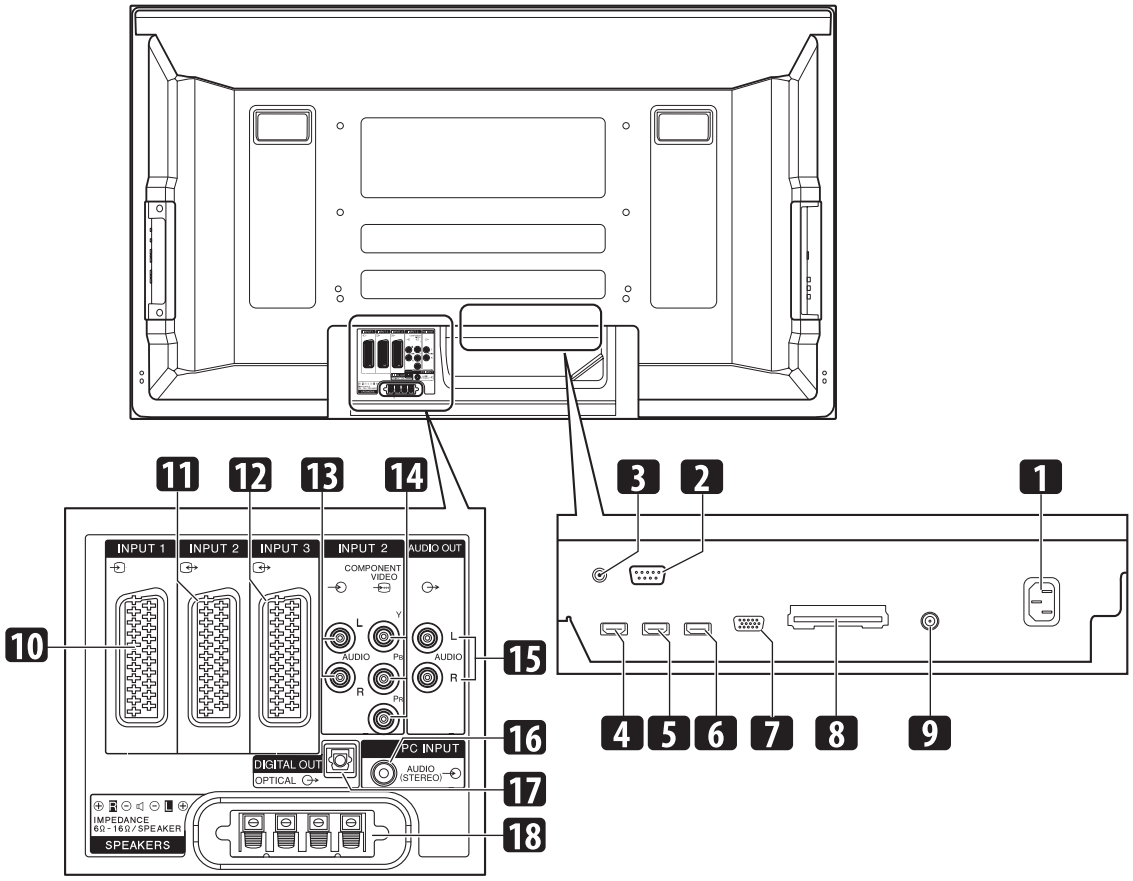
### • Front Section




1 ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
2 POWER ON indicator
3 STANDBY indicator
4 TIMER indicator
• The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.
5 Remote control sensor
6 **STANDBY/ON** button
7 **INPUT** button
8 **VOLUME +/–** buttons
9 **CHANNEL +/–** buttons
10 PHONES output terminal
11 INPUT 5 terminal (S-VIDEO)
12 INPUT 5 terminal (VIDEO)
13 INPUT 5 terminals (AUDIO)

## ■ PDP-5080XD

### • Rear Section

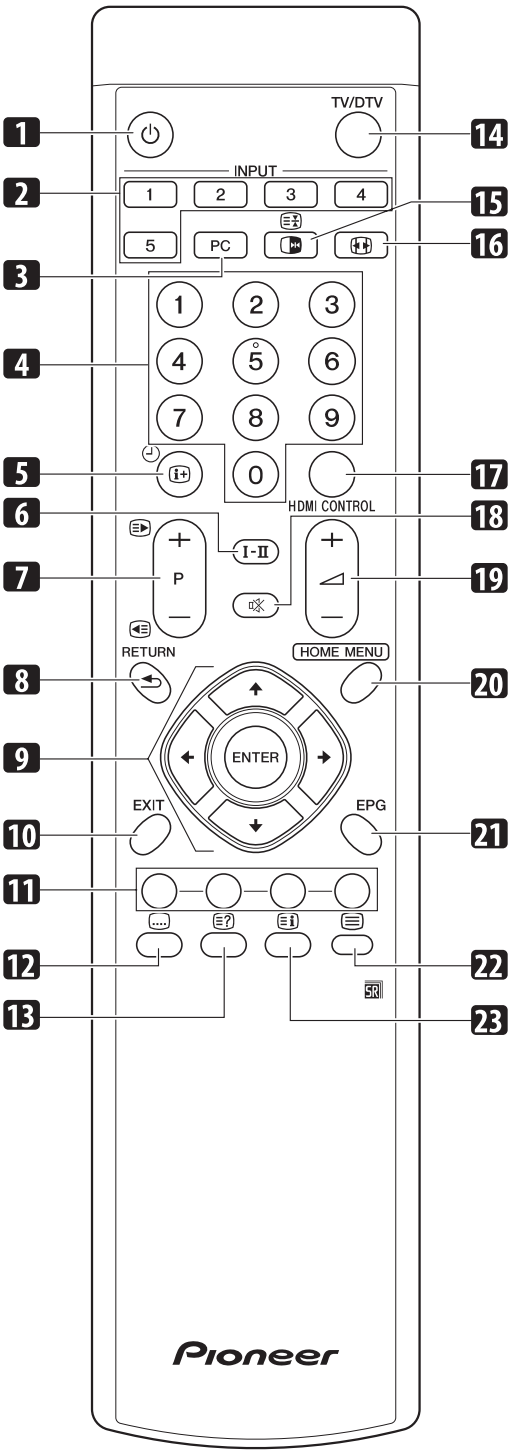



**1** AC IN terminal
**2** RS-232C terminal (used for factory setup)
**3** CONTROL OUT terminal (supports **SR+**)
**4** INPUT 1 terminal (HDMI)
**5** INPUT 3 terminal (HDMI)
**6** INPUT 4 terminal (HDMI)
**7** PC INPUT terminal (Analogue RGB)
**8** COMMON INTERFACE slot
• For a CA Module with a smart card
**9** ANT (Antenna) input terminal
• Power can be supplied through this terminal
**10** INPUT 1 terminal (SCART)
**11** INPUT 2 terminal (SCART)
**12** INPUT 3 terminal (SCART)
**13** INPUT 2 terminals (Audio)
**14** INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$)
**15** AUDIO OUT terminals
**16** PC INPUT terminal (Audio)
**17** DIGITAL OUT terminal (OPTICAL)
**18** SPEAKERS terminals (right/left)

## ■ PDP-5080XD

### • Remote Control Unit

Point the remote control at the plasma television to operate.




1 ⏻: Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4", "INPUT 5")

3 **PC:** Selects the PC terminal as an input source.

4 **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

5 : Displays the channel information.
Displays the banner information in DTV input mode.

6 **I–II:** Sets the sound multiplex mode.

7 **P+/P–:** TV/External input mode: Selects a channel.

/: Teletext mode: Selects a page.

8 **RETURN:** Restores the previous menu screen.

9 ↑/↓/←/→: Selects a desired item on the setting screen.

**ENTER:** Executes a command.

10 **EXIT:** Returns to the normal screen in one step.

11 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

12 : Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

13 : Displays hidden characters.

14 **TV/DTV:** Switches between the TV and DTV input modes.

15 : TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

16 : Selects the screen size.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 : Mutes the sound.

19 +/–: Sets the volume.

20 **HOME MENU:** Displays the HOME MENU screen.

21 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

22 : Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

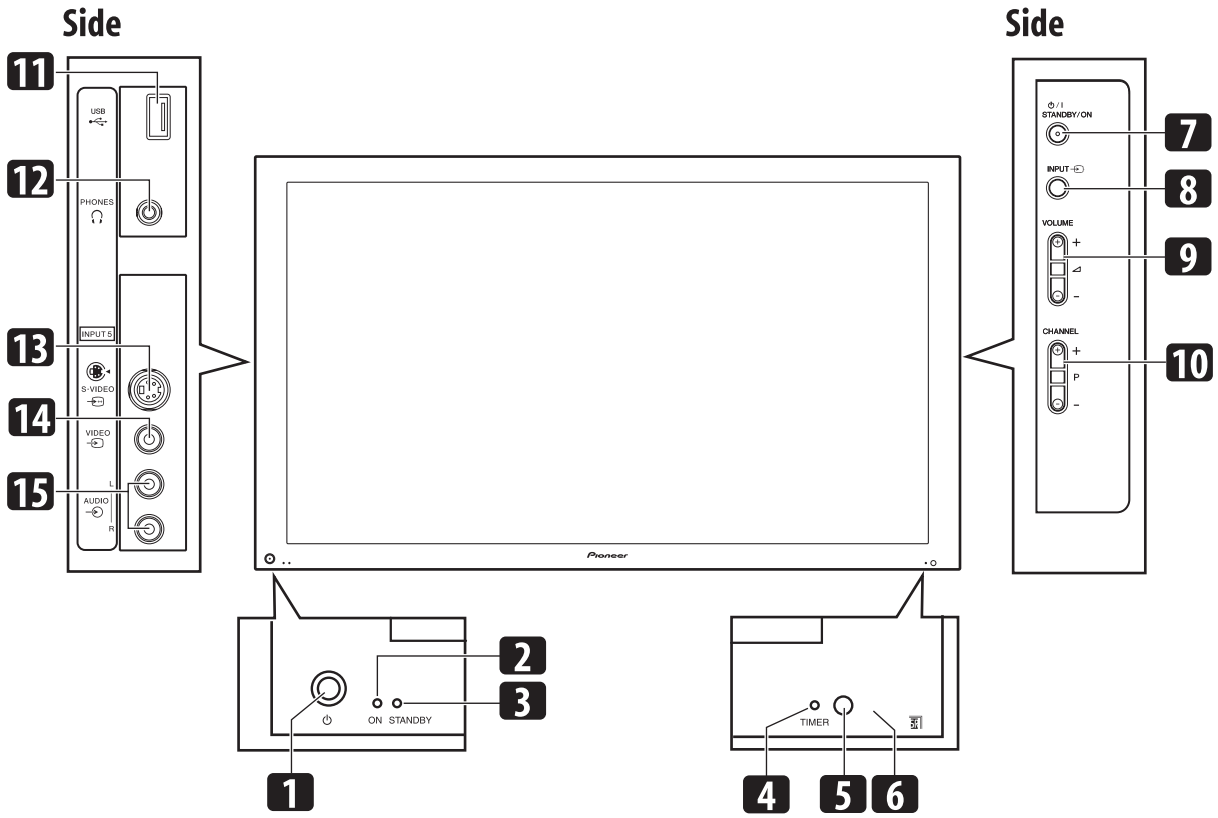
23 : Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

**Note**

- When using the remote control unit, point it at the plasma television.

## ■ PDP-508XD

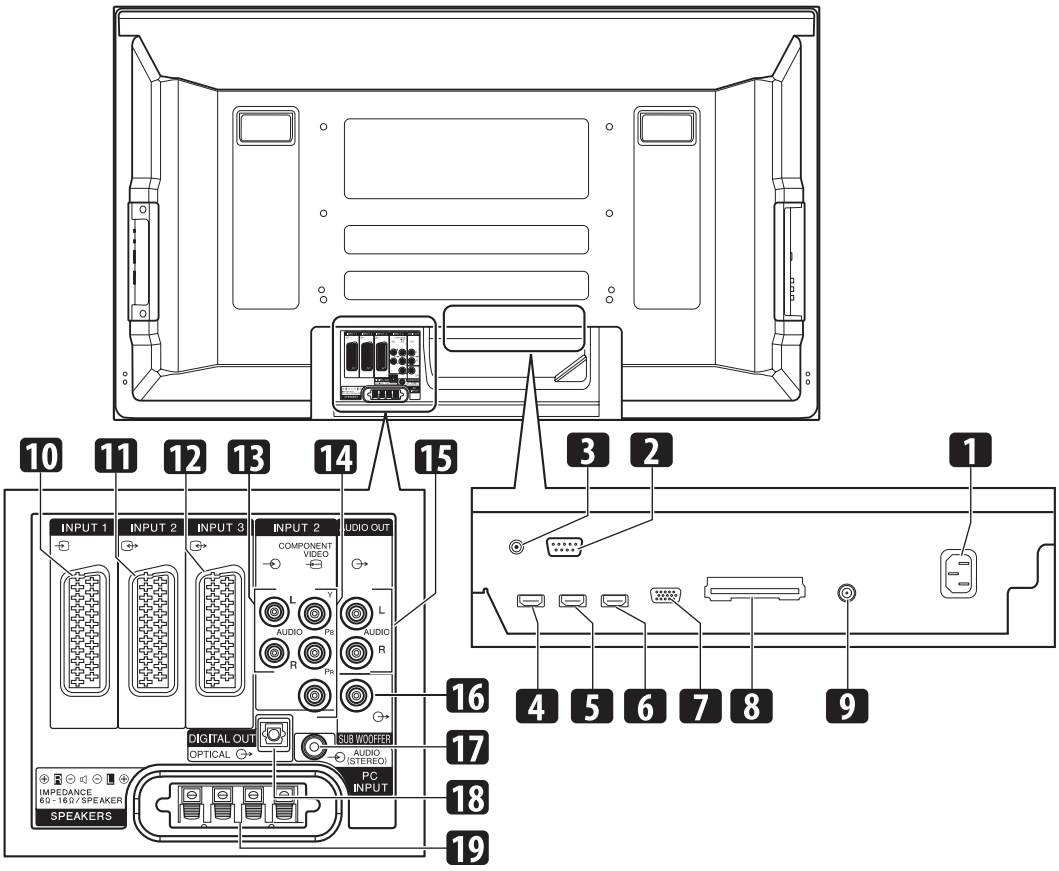
### • Front Section




**1** ⏻ button (If the button is off, the power will not turn on even when ⏻, **0** to **9** on the remote control unit or **STANDBY/ON** on the plasma television are pressed.)
**2** POWER ON indicator
**3** STANDBY indicator
**4** TIMER indicator
• The TIMER indicator lights up when one or more DTV programmes are preset for watching or recording.
**5** Room Light Sensor
**6** Remote control sensor
**7** **STANDBY/ON** button
**8** **INPUT** button
**9** **VOLUME +/–** buttons
**10** **CHANNEL +/–** buttons
**11** USB port
**12** PHONES output terminal
**13** INPUT 5 terminal (S-VIDEO)
**14** INPUT 5 terminal (VIDEO)
**15** INPUT 5 terminals (AUDIO)

## ■ PDP-508XD

### • Rear Section



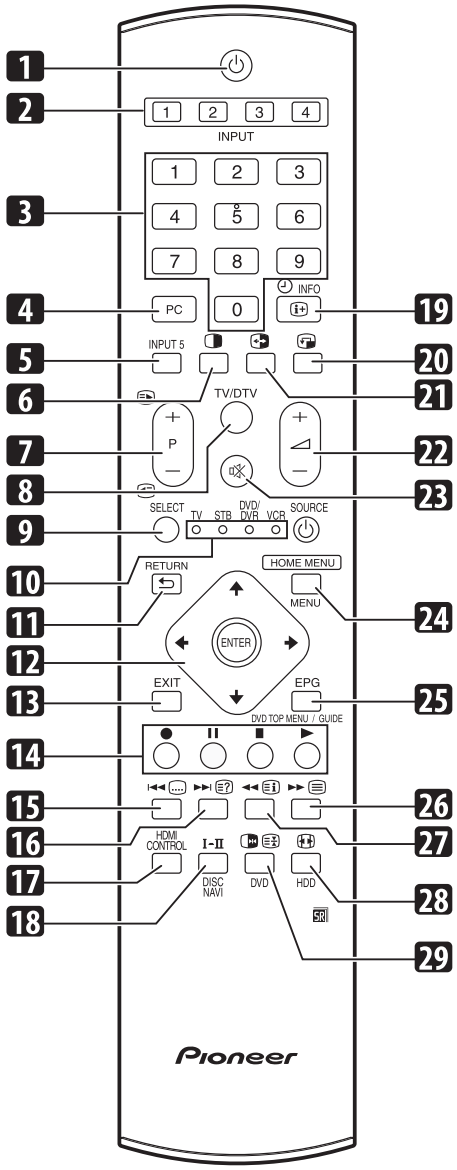

**1** AC IN terminal
**2** RS-232C terminal (used for factory setup)
**3** CONTROL OUT terminal (supports **SR+**)
**4** INPUT 1 terminal (HDMI)
**5** INPUT 3 terminal (HDMI)
**6** INPUT 4 terminal (HDMI)
**7** PC INPUT terminal (Analogue RGB)
**8** COMMON INTERFACE slot
• For a CA Module with a smart card
**9** ANT (Antenna) input terminal
• Power can be supplied through this terminal

**10** INPUT 1 terminal (SCART)
**11** INPUT 2 terminal (SCART)
**12** INPUT 3 terminal (SCART)
**13** INPUT 2 terminals (Audio)
**14** INPUT 2 terminals (COMPONENT VIDEO: Y, $P_B$, $P_R$)
**15** AUDIO OUT terminals
**16** SUBWOOFER output terminal
**17** PC INPUT terminal (Audio)
**18** DIGITAL OUT terminal (OPTICAL)
**19** SPEAKERS terminals (right/left)

## ■ PDP-508XD

### • Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.




1 ⏻: Turns on the power to the plasma television or places it into the standby mode.

2 **INPUT:** Selects an input source of the plasma television. ("INPUT 1", "INPUT 2", "INPUT 3", "INPUT 4")

3 **0 - 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

4 **PC:** Selects the PC terminal as an input source.

5 **INPUT 5:** Selects INPUT 5 as the input source of the plasma television.

6 : Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

7 **P+/P–:** TV/External input mode: Selects a channel.
/: Teletext mode: Selects a page.

8 **TV/DTV:** Switches between the TV and DTV input modes.

9 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

10 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

11 **RETURN:** Restores the previous menu screen.

12 ↑/↓/←/→: Selects a desired item on the setting screen.
**ENTER:** Executes a command.

13 **EXIT:** Returns to the normal screen in one step.

14 **Colour (RED/GREEN/YELLOW/BLUE):**
Teletext mode: Selects a page.

15 : Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

16 : Displays hidden characters.

17 **HDMI CONTROL:** Displays the HDMI Control menu.

18 I–II: Sets the sound multiplex mode.

19 **INFO:** Displays the channel information.
Displays the banner information in DTV input mode.

20 : Moves the location of the small screen when in the picture-in-picture mode.

21 : Switches between the two screens when in the 2-screen or picture-in-picture mode.

22 +/–: Sets the volume.

23 : Mutes the sound.

24 **HOME MENU:** Displays the HOME MENU screen.

25 **EPG:** Displays the Electronic Programme Guide in DTV input mode.

26 : Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

27 : Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

28 : Selects the screen size.

29 : TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
: Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

**Note**

- When using the remote control unit, point it at the plasma television.

# 3. BASIC ITEMS FOR SERVICE

## 3.1 CHECK POINTS AFTER SERVICING

### Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

| No. | Procedures | Item to be checked |
|---|---|---|
| 1 | Check if all the symptoms pointed out by the customer have been addressed. | The symptoms in question must not be reproduced. |
| 2 | Connect the peripheral equipment. | Connect all external peripheral equipment as originally connected and check if the connections are correct. |
| 3 | Check the video and audio. | Tune in to the stations that the customer would normally receive and check if video and audio are normal. |
| 4 | Check the buttons and controls. | Use the buttons and controls on the remote control unit and main unit and check if they operate properly. |
| 5 | Check the cabinet. | Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair. |

See the table below for the items to be checked regarding video and audio:

| Item to be checked regarding video | Item to be checked regarding audio |
|---|---|
| Block noise | Distortion |
| Horizontal noise | Noise |
| Dot noise | Volume too low |
| Disturbed image (video jumpiness) | Volume too high |
| Too dark | Volume fluctuating |
| Too bright | Sound interrupted |
| Mottled color | |

# 3.2 QUICK REFERENCE

## Quick Reference upon Service Visit ①
## Notes, PD/SD diagnosis, and methods for various settings

### Notes when visiting for service

**1. Notes when disassembling/reassembling**

**① Rear case**

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

**② Attaching screws for the HDMI connector**

When attaching the HDMI connector after replacing the Main Assy, secure the HDMI connector manually with a screwdriver, but not with an electric screwdriver. If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

**2. On parts replacement**

**① How to discharge before replacing the Assys**

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:

A: Let the panel sit at least for 3 minutes after the power is turned off.

B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.

For details, see "5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION".

**② On the settings after replacement of the Assys**

Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

**3. On various settings**

**① Setting in Factory mode**

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

### PD/SD

| | Item | No. of LEDs flashing Red | Blue |
|---|---|---|---|
| Panel section | SQ_LSI | | Blue 1 |
| | Communication with the module IIC | | Blue 2 |
| | DIGITAL-RST2 | | Blue 3 |
| | Panel high temperature | | Blue 4 |
| MTB section | Audio/ Short-circuit SP terminal | | Blue 5 |
| | Communication with the Module UCOM | | Blue 6 |
| | Main 3-wire serial communication | | Blue 7 |
| | Main IIC communication | | Blue 8 |
| | Communication with the Main UCOM | | Blue 9 |
| | FAN | | Blue 10 |
| | Unit high temperature | | Blue 11 |
| | Digital Tuner communication | | Blue 12 |
| | MTB-RST2/RST4 | | Blue 13 |
| | Main EEPROM | | Blue 15 |
| POWER | | Red 2 | |
| SCAN | | Red 3 | |
| SCN-5V | | Red 4 | |
| Y-DRIVE | | Red 5 | |
| Y-DCDC | | Red 6 | |
| Y-SUS | | Red 7 | |
| ADRS | | Red 8 | |
| X-DRIVE | | Red 9 | |
| X-DCDC | | Red 10 | |
| X-SUS | | Red 11 | |
| DIG-DCDC | | Red 12 | |
| UNKNOWN | | Red 15 | |

**LED Display Information**

① Rewriting software

② PD (2-15)

③ SD (1-15)

④ No backup

This indication does not display all LED patterns.
For details, please refer to 5.1.1 LED DISPLAY INFORMATION.

### How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

**1. Confirmation of accumulated power-on time and power-on count**

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] five times.)

**2. Confirmation of the Power-down and Shutdown histories**

**① Panel system**

PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] four times.)

**② MTB section**

Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

**3. How to display the Mask indication**

**① Mask indication in the panel side**

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬇] or [⬆].

### Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

**1. Digital Video Assy: Transfer of backup data**

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)

② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.

③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

**2. MAIN Assy: Execution of FINAL SETUP.**

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)

② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.

③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

**3. POWER SUPPLY Unit: Clearance of the accumulated power-on count and maximum temperature value**

① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)

② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

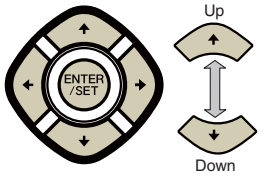
**4. Other Assys: Clearance of the maximum temperature value**

① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)

② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

# Quick Reference upon Service Visit ②
# Mode transition and structure of layers in Service Factory mode

## Mode transition in Service Factory mode




- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].

INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. MAIN NG
4. TEMPERATURE
5. HOUR METER
6. HDMI SIGNAL INFO1
7. HDMI SIGNAL INFO2
8. VDEC SIGNAL INFO1
9. VDEC SIGNAL INFO2

MUTING

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO

MUTING

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

MUTING

OPTION mode
1. EDID WRITE MODE
2. CH PRESET
3. SYNC DET

MUTING

## Structure of Layers in Service Factory Mode

| | |
|---|---|
| INFORMATION mode | |
| ├ 1. VERSION (1) | The software versions for each microcomputer |
| ├ 2. VERSION (2) | The Flash memory versions for each device |
| ├ 3. MAIN NG | The shutdown message ID/event times |
| │ | (Going Clear mode by [ENTER/SET] key) |
| │ └ 3-1. CLEAR | Select Yes by [➡] key, ➡ pressing and hold [ENTER/SET] key |
| ├ 4. TEMPERATURE | The temperature/FAN rotating status/Room light sensor |
| ├ 5. HOUR METER | The HOUR METER/P-COUNT information |
| ├ 6. HDMI SIGNAL INFO 1 | The information of HDMI information files |
| ├ 7. HDMI SIGNAL INFO 2 | The information of HDMI information files |
| ├ 8. VDEC SIGNAL INFO 1 | The signal information of VDEC |
| ├ 9. VDEC SIGNAL INFO 2 | The signal information of VDEC |
| PANEL FACTORY mode | Refer to [PANEL FACTORY MODE] |
| OPTION mode | |
| ├ 1. EDID WRITE MODE | For factory use |
| ├ 2. CH PRESET | For production line use |
| ├ 3. SYNC DET | For technical analysis |
| INITIALIZE mode | |
| ├ 1. SIDE MASK LEVEL | For factory use |
| │ └ 1-1. SIDE MASK LEVEL | |
| ├ 2. FINAL SETUP | Set to Factory default settings (it should perform after |
| │ └ 2-1. DATA RESET | replacing a MAIN Assy) |
| └ 3. Wide XGA AUTO | For technical analysis |

## Structure of Layers in Panel Factory Mode 1

| | |
|---|---|
| 1. PANEL INFORMATION | Version indication of the panel |
| 2. PANEL WORKS | Indications of the accumulated power-on time, pulse-meter count, and power-on count of the panel |
| 3. POWER DOWN | Indication of the Power-down history |
| 4. SHUT DOWN | Indication of the Shutdown history |
| 5. PANEL-1 ADJ (+) | |
| ├ 1. VOL SUS | Settings required after replacement of the panel |
| ├ 2. VOL OFFSET | |
| ├ • • • • • | |
| ├ 8. VOL YNOFS4 | |
| ├ 9. RESET1ST_KSB | Modification not required because these items are basically for factory presetting |
| ├ 10. RESET2ND_KSB | |
| ├ • • • • • | |
| ├ 23. YSTL_FMR_HZ | |
| ├ 24. SUS FREQ | For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again. |
| 6. PANEL-2 ADJ (+) | |
| ├ 1. R-HIGH | Parameters for the WB adjustment of the panel, which are required during adjustment after panel replacement |
| ├ 2. G-HIGH | |
| ├ 3 .B-HIGH | |
| ├ 4. R-LOW | |
| ├ 5. G-LOW | |
| ├ 6. B-LOW | |
| ├ 7. ABL | Setting of the power consumption. A setting table is available for each vertical signal. |

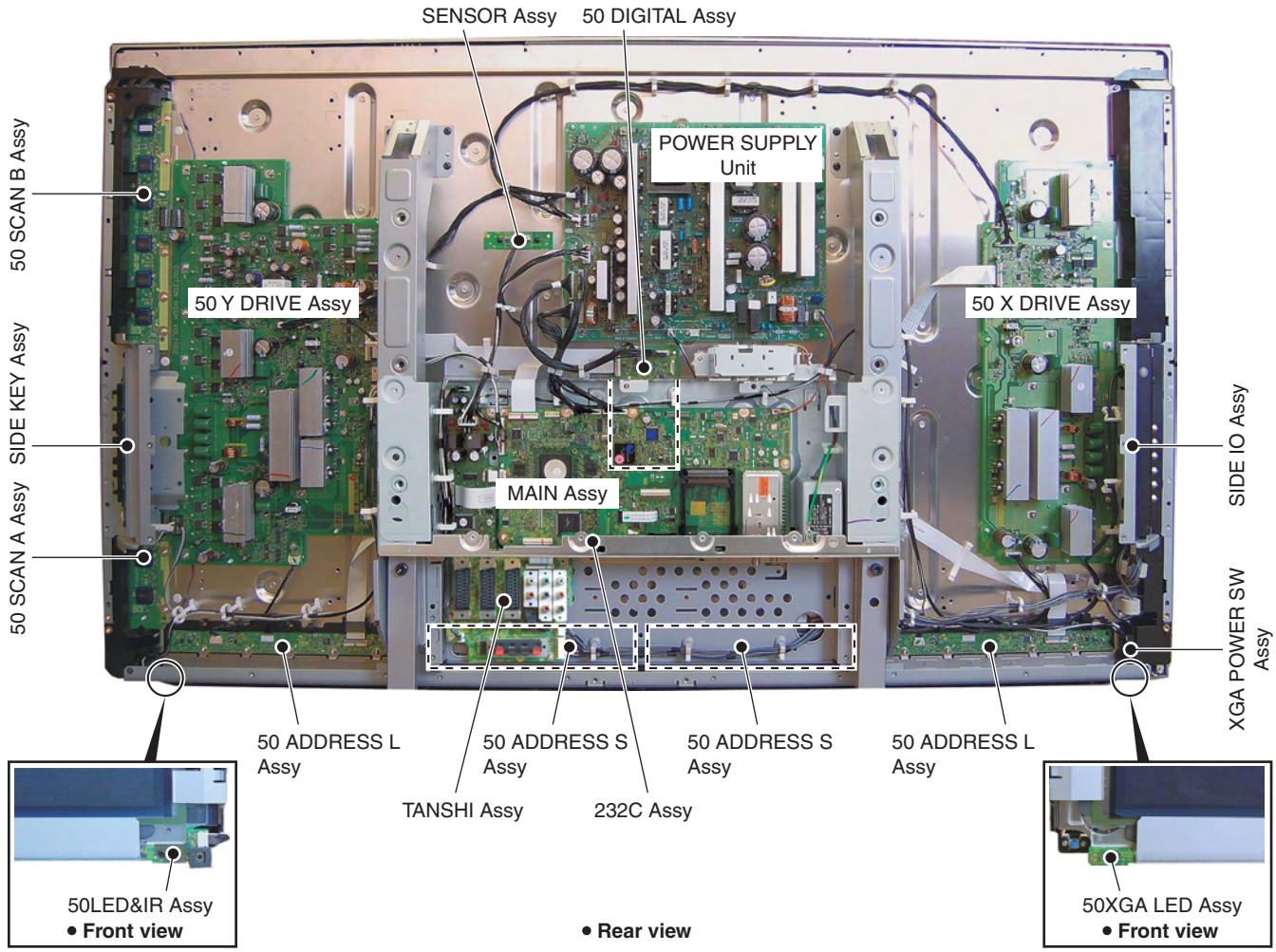
To "Structure of Layers in Panel Factory Mode 2"

## Structure of Layers in Panel Factory Mode 2

| | |
|---|---|
| 7. PANEL FUNCTION (+) | |
| ├ 1. R-LEVEL | Items for use by engineers |
| ├ 2. G-LEVEL | |
| ├ 3. B-LEVEL | |
| ├ 4. ADDRESS L1 | |
| ├ 5. ADDRESS L2 | |
| ├ • • • • • | |
| ├ 11. ADDRESS U4 | |
| ├ 12. STK MODE | |
| 8. ETC (+) | |
| ├ 1. BACKUP DATA | For transferring backup data (after replacement of the DIGITAL Assy) |
| ├ 2. DIGITAL EEPROM | To clear data of the digital video |
| ├ 3. PD INFO. | For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", using [➡], then hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, {ETC} is automatically selected. |
| ├ 4. SD INFO. | |
| ├ 5. HR-MTR INFO. | |
| ├ 6. PM/B1-B5 | |
| ├ 7. P COUNT INFO. | |
| ├ 8. MAX TEMP. | |
| 9. RASTER MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Raster Mask (full mask) is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. RST MASK 01 | |
| ├ • • • • • | |
| ├ 26. RST MASK 25 | |
| 10. PATTEN MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. PTN MASK 01 | |
| ├ • • • • • | |
| ├ 50. PTN MASK 49 | |
| 11. COMBI MASK SETUP (+) | |
| ├ 1. MASK OFF | For use while Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. |
| ├ 2. CMB MASK 01 | |
| ├ • • • • • | |
| ├ 18. CMB MASK 17 | |

# 3.3 PCB LOCATION

• This photo. is PDP-5080XD model.




**Note:**
**The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.**

## LIST OF ASSEMBLIES

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | | 50 ADDRESS L ASSY | AWW1264 |
| NSP | | 50 ADDRESS S ASSY | AWW1265 |
| NSP | | 50 SCAN A ASSY | AWW1268 |
| | | └ IC2801 - IC2806 | SN755875PZT-P |
| NSP | | 50 SCAN B ASSY | AWW1269 |
| | | └ IC2901 - IC2906 | SN755875PZT-P |
| | | 50 X DRIVE ASSY | AWV2447 |
| | | 50 Y DRIVE ASSY | AWW1260 |
| | | XGA POWER SW ASSY | AWW1261 |
| | | 50 DIGITAL ASSY | AWW1270 |
| | | SENSOR ASSY | AWW1272 |
| ⚠ | | MAIN ASSY (PDP-5080XA) | AWV2463 |
| ⚠ | | MAIN ASSY (PDP-5080XD) | AWV2462 |
| ⚠ | | MAIN ASSY (PDP-508XD) | AWV2461 |
| | | TANSHI ASSY (PDP-5080XA) | AWW1252 |
| | | TANSHI ASSY (PDP-5080XD) | AWW1250 |
| | | TANSHI ASSY (PDP-508XD) | AWW1248 |
| | | SIDE IO ASSY | AWW1253 |
| | | 232C ASSY | AWW1254 |
| | | 50XGA LED ASSY | AWW1280 |
| | | 50LED&IR ASSY (PDP-5080XA, XD) | AWW1283 |
| | | 50LED&IR ASSY (PDP-508XD) | AWW1281 |
| | | SIDE KEY ASSY | AWW1286 |
| ⚠ | | POWER SUPPLY UNIT | AXY1157 |
| | | PDP SERVICE ASSY 508 | AWU1277 |

# 3.4 CLEANING

| Name | Part No. | Remarks |
|---|---|---|
| Cleaning liquid | GEM1004 | Used to fan cleaning.<br>Refer to “10.4 CHASSIS SECTION (1/2)”. |
| Cleaning paper | GED-008 | |

A

B

C

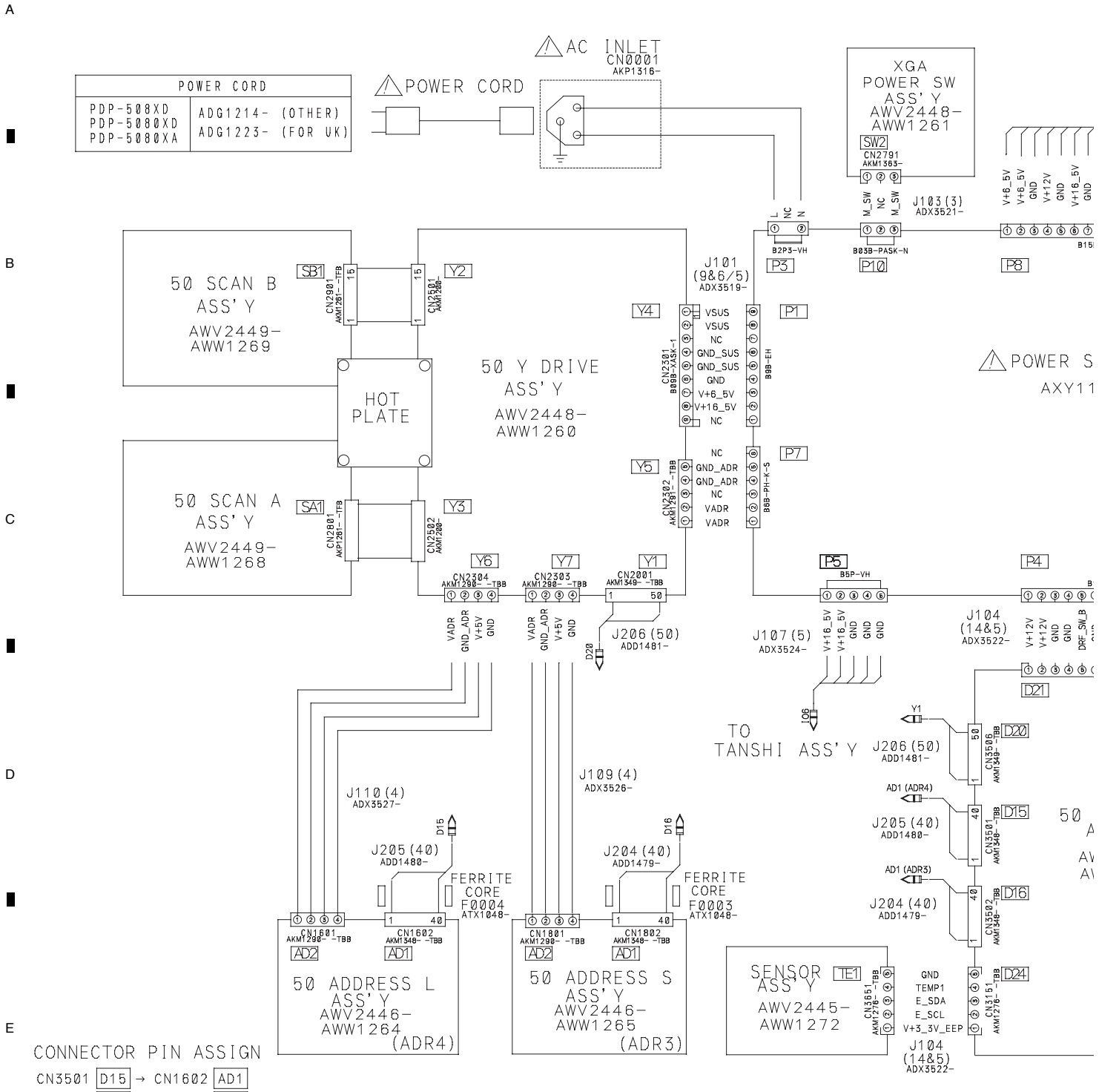
D

E

F

# 4. BLOCK DIAGRAM

## 4.1 OVERALL WIRING DIAGRAM (1/2)




CONNECTOR PIN ASSIGN

CN3501 D15 → CN1602 AD1

CN3502 D16 → CN1802 AD1

CN3503 D17 → CN1802 AD1

CN3504 D18 → CN1602 AD1

| | |
|---|---|
| 1→40. NC | 21→20. CP |
| 2→39. ADR_PD | 22→19. NC |
| 3→38. PSIZE | 23→18. GND |
| 4→37. GND | 24→17. NC |
| 5→36. V+8V | 25→16. CLKN |
| 6→35. V+8V | 26→15. CLKP |
| 7→34. GND | 27→14. NC |
| 8→33. GND | 28→13. GND |
| 9→32. NC | 29→12. NC |
| 10→31. AN | 30→11. DN |
| 11→30. AP | 31→10. DP |
| 12→29. NC | 32→ 9. NC |
| 13→28. GND | 33→ 8. GND |
| 14→27. NC | 34→ 7. GND |
| 15→26. BN | 35→ 6. V+3_3V_D |
| 16→25. BP | 36→ 5. V+3_3V_D |
| 17→24. NC | 37→ 4. GND |
| 18→23. GND | 38→ 3. NC |
| 19→22. NC | 39→ 2. LS2 |
| 20→21. CN | 40→ 1. GND |

CN2502 Y3 → CN2801 SA1

| | |
|---|---|
| 1. VH | |
| 2. VH | |
| 3. NC | |
| 4. NC | |
| 5. GNDH | |
| 6. SI_R | |
| 7. SI_L | |
| 8. CLK | |
| 9. OC2 | |
| 10. OC1 | |
| 11. CLK | |
| 12. LE | |
| 13. GNDH | |
| 14. GNDH_R | |
| 15. IC5V | |

CN2501 Y2 → CN2901 SB1

| | |
|---|---|
| 1. VH | |
| 2. VH | |
| 3. NC | |
| 4. NC | |
| 5. GNDH | |
| 6. SI_R | |
| 7. SI_L | |
| 8. CLK | |
| 9. OC2 | |
| 10. OC1 | |
| 11. CLK | |
| 12. LE | |
| 13. GNDH | |
| 14. GNDH_R | |
| 15. IC5V | |

CN3505 D19 → CN1001 X1

| | |
|---|---|
| 1→40. XCN_PD | 21→20. GND |
| 2→39. NC | 22→19. XKOFS1_ADJ |
| 3→38. GND | 23→18. XKOFS2_ADJ |
| 4→37. XSUS_B | 24→17. GND |
| 5→36. GND | 25→16. XDRV_PD |
| 6→35. XSUS_U | 26→15. XDD_PD |
| 7→34. GND | 27→14. PSW2 |
| 8→33. XSUS_D | 28→13. GND |
| 9→32. GND | 29→12. XRsv_2 |
| 10→31. XSUS_G | 30→11. XRsv_1 |
| 11→30. GND | 31→10. NC |
| 12→29. XPRST | 32→ 9. NC |
| 13→28. GND | 33→ 8. NC |
| 14→27. XKOFS1 | 34→ 7. NC |
| 15→26. GND | 35→ 6. NC |
| 16→25. XKOFS2 | 36→ 5. NC |
| 17→24. GND | 37→ 4. NC |
| 18→23. XSOFT_D | 38→ 3. NC |
| 19→22. GND | 39→ 2. NC |
| 20→21. SUS_MUTE | 40→ 1. XSUS_PD |

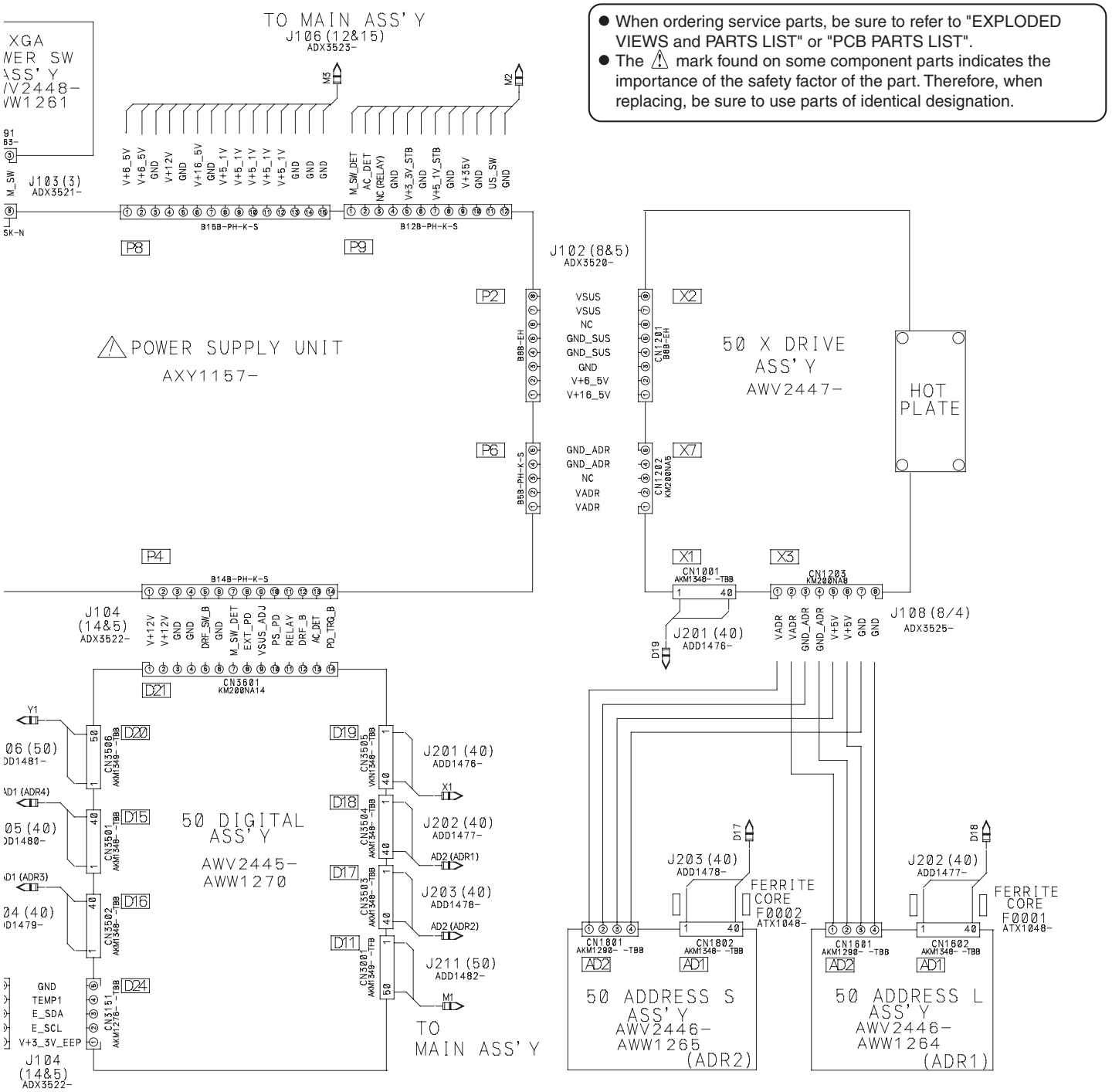
CN3506 D20 → CN2001 Y1

| | |
|---|---|
| 1→50. GND | 26→25. YKNOFS3 |
| 2→49. SCN5V_PD | 27→24. YKNOFS4 |
| 3→48. SI | 28→23. GND |
| 4→47. GND | 29→22. YNOFS |
| 5→46. CLR | 30→21. YRST_D |
| 6→45. CLK | 31→20. YSOFT_G |
| 7→44. GND | 32→19. YSOFT_D |
| 8→43. LE | 33→18. GND |
| 9→42. OC2 | 34→17. VOFS_ADJ |
| 10→41. OC1 | 35→16. VYPRST_ADJ |
| 11→40. GND | 36→15. GND |
| 12→39. YSUS_B | 37→14. NC |
| 13→38. YSUS_U | 38→13. YKNOFS1_2_ADJ |
| 14→37. GND | 39→12. YKNOFS3_ADJ |
| 15→36. YSUS_D | 40→11. YKNOFS4_ADJ |
| 16→35. YSUS_G | 41→10. GND |
| 17→34. GND | 42→ 9. YRsv1 |
| 18→33. YPR-U | 43→ 8. YRsv2 |
| 19→32. SUS_MUTE | 44→ 7. YRsv3 |
| 20→31. GND | 45→ 6. GND |
| 21→30. YSUS_MSK_H | 46→ 5. YDD_PD |
| 22→29. YSUS_MSK_L | 47→ 4. YSUS_PD |
| 23→28. GND | 48→ 3. SCAN_PD |
| 24→27. YKNOFS1 | 49→ 2. YDRV_PD |
| 25→26. YKNOFS2 | 50→ 1. PSW2 |

CN3001 D11 →

| | |
|---|---|
| 1→50. GND | 2 |
| 2→49. LVDS_ON | 2 |
| 3→48. REQ_MD | 2 |
| 4→47. RXD_MD | 3 |
| 5→46. TXD_MD | 3 |
| 6→45. GND | 3 |
| 7→44. GND | 3 |
| 8→43. LVDS_E1+ | 3 |
| 9→42. LVDS_E1- | 3 |
| 10→41. GND | 3 |
| 11→40. LVDS_D1+ | 3 |
| 12→39. LVDS_D1- | 3 |
| 13→38. GND | 3 |
| 14→37. LVDS_CLK1+ | 4 |
| 15→36. LVDS_CLK1- | 4 |
| 16→35. GND | 4 |
| 17→34. LVDS_C1+ | 4 |
| 18→33. LVDS_C1- | 4 |
| 19→32. GND | 4 |
| 20→31. LVDS_B1+ | 4 |
| 21→30. LVDS_B1- | 4 |
| 22→29. GND | 4 |
| 23→28. LVDS_A1+ | 4 |
| 24→27. LVDS_A1- | 4 |
| 25→26. GND | 5 |

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.




Y1

| | |
|---|---|
| 1 | NOFS3 |
| 2 | NOFS4 |
| 3 | ID |
| 4 | OFS |
| 5 | RST_D |
| 6 | OFT_G |
| 7 | OFT_D |
| 8 | ID |
| 9 | OFS_ADJ |
| 10 | PRST_ADJ |
| 11 | ID |
| 12 | NOFS1_2_ADJ |
| 13 | NOFS3_ADJ |
| 14 | NOFS4_ADJ |
| 15 | ID |
| 16 | sv1 |
| 17 | sv2 |
| 18 | sv3 |
| 19 | ID |
| 20 | D_PD |
| 21 | US_PD |
| 22 | AN_PD |
| 23 | RV_PD |
| 24 | W2 |

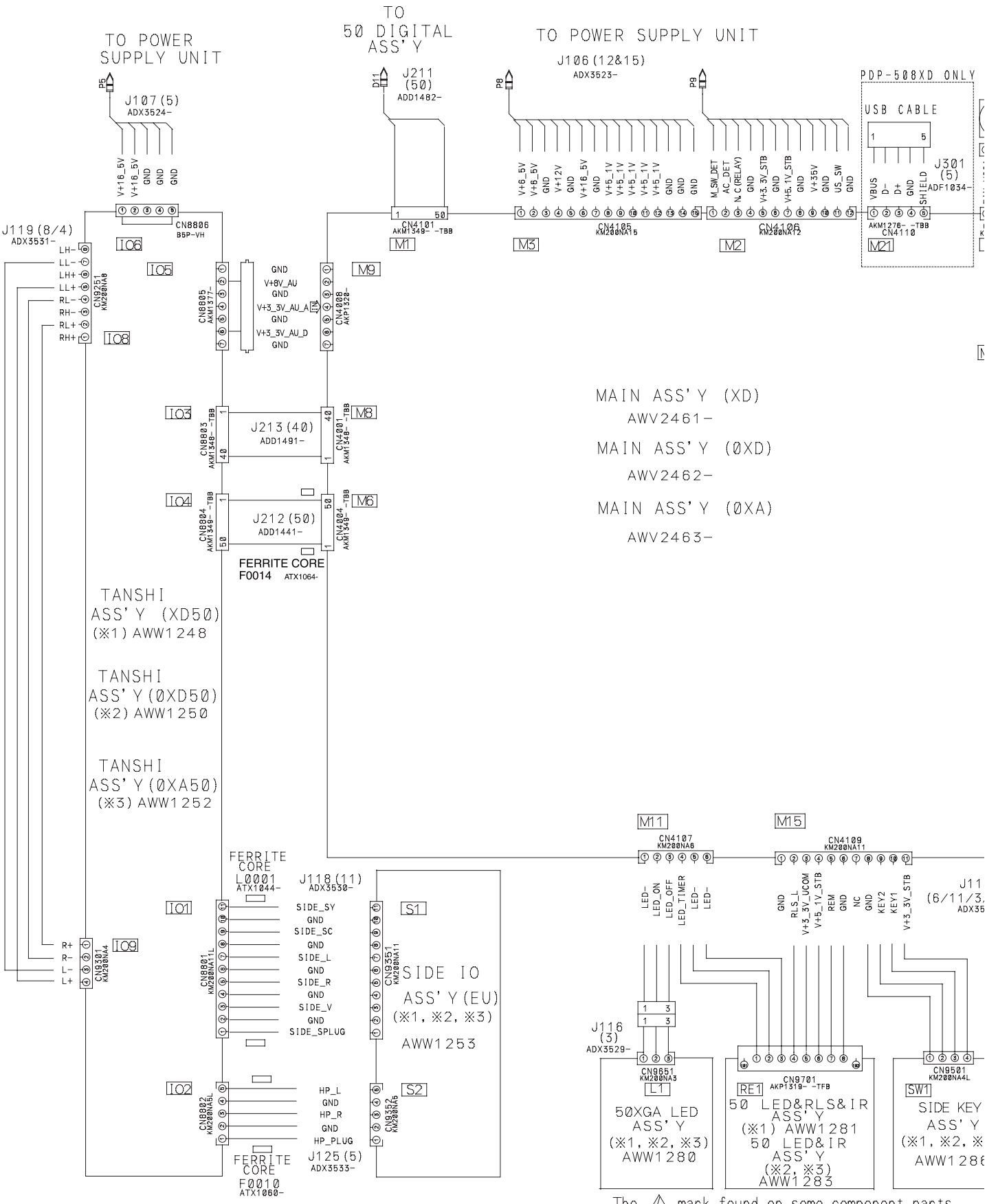
CN3001 D11 → CN4101 M1

| | |
|---|---|
| 1→50. GND | 26→25. GND |
| 2→49. LVDS_ON | 27→24. LVDS_E0+ |
| 3→48. REQ_MD | 28→23. LVDS_E0- |
| 4→47. RXD_MD | 29→22. GND |
| 5→46. TXD_MD | 30→21. LVDS_D0+ |
| 6→45. GND | 31→20. LVDS_D0- |
| 7→44. GND | 32→19. GND |
| 8→43. LVDS_E1+ | 33→18. LVDS_CLK0+ |
| 9→42. LVDS_E1- | 34→17. LVDS_CLK0- |
| 10→41. GND | 35→16. GND |
| 11→40. LVDS_D1+ | 36→15. LVDS_C0+ |
| 12→39. LVDS_D1- | 37→14. LVDS_C0- |
| 13→38. GND | 38→13. GND |
| 14→37. LVDS_CLK1+ | 39→12. LVDS_B0+ |
| 15→36. LVDS_CLK1- | 40→11. LVDS_B0- |
| 16→35. GND | 41→10. GND |
| 17→34. LVDS_C1+ | 42→ 9. LVDS_A0+ |
| 18→33. LVDS_C1- | 43→ 8. LVDS_A0- |
| 19→32. GND | 44→ 7. GND |
| 20→31. LVDS_B1+ | 45→ 6. GND |
| 21→30. LVDS_B1- | 46→ 5. MSEL |
| 22→29. GND | 47→ 4. RELAY2 |
| 23→28. LVDS_A1+ | 48→ 3. V+3_3V_UCOM |
| 24→27. LVDS_A1- | 49→ 2. MODE |
| 25→26. GND | 50→ 1. GND |

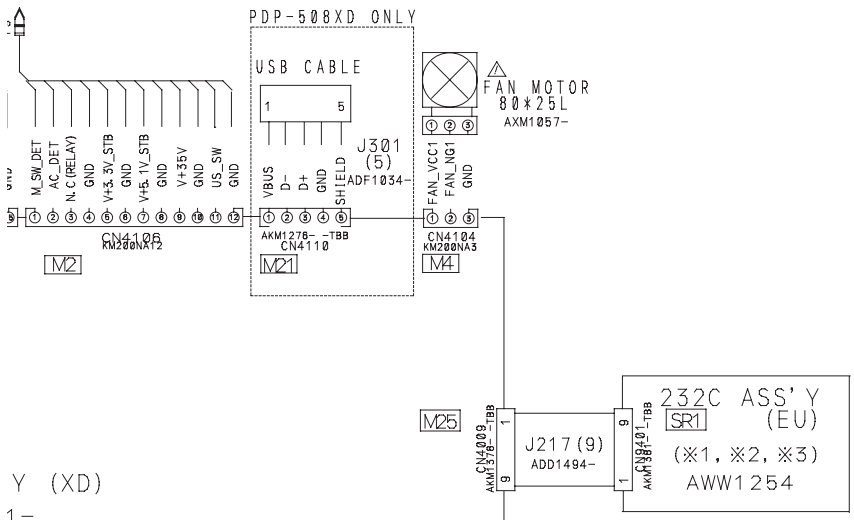
The ⚠ mark found on some component parts should be replaced with same parts (safety regulation authorized) of identical designation.

OVERALL DIAGRAM
PDP-508XD
PDP-5080XD
PDP-5080XA

# 4.2 OVERALL WIRING DIAGRAM (2/2)



Y UNIT




Y (XD)

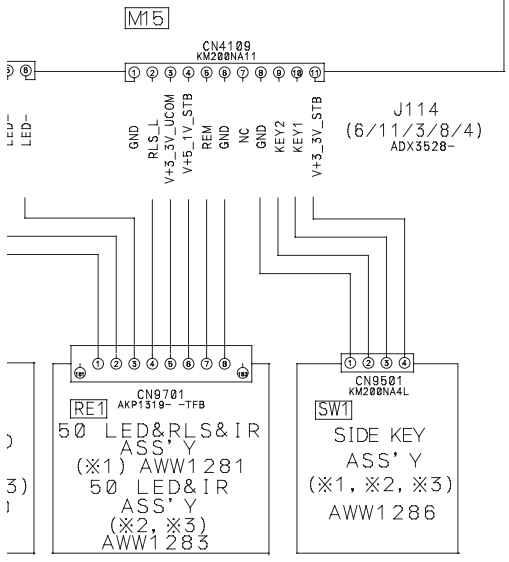
1-

Y (0XD)

2-

Y (0XA)

3-




| | | |
|---|---|---|
| ※1 | PDP-508XD/WYVIXK5 | AWV2481- |
| ※2 | PDP-5080XD/WYVIXK5 | AWV2483- |
| ※3 | PDP-5080XA/WYVIXK5<br>PDP-5080XA/WYV5 | AWV2485- |

CONNECTOR PIN ASSIGN

CN4004 M6 → CN8804 IO4

| | |
|---|---|
| 1→50. GND | 26→25. GND |
| 2→49. TEMP2 | 27→24. INPUT2_Y |
| 3→48. V+3_3V_UCOM | 28→23. GND |
| 4→47. SIDE_SPLUG | 29→22. INPUT2_PB |
| 5→46. SIDE_S2 | 30→21. GND |
| 6→45. SIDE_V | 31→20. INPUT2_PR |
| 7→44. GND | 32→19. GND |
| 8→43. SIDE_SY | 33→18. INPUT1_G |
| 9→42. GND | 34→17. GND |
| 10→41. SIDE_SC | 35→16. INPUT1_B |
| 11→40. GND | 36→15. GND |
| 12→39. INPUT1_V | 37→14. INPUT1_R |
| 13→38. GND | 38→13. GND |
| 14→37. SCART1_OUT_V | 39→12. INPUT3_G |
| 15→36. GND | 40→11. GND |
| 16→35. SCART2_OUT_V | 41→10. INPUT3_B |
| 17→34. SCART3_OUT_V | 42→ 9. GND |
| 18→33. GND | 43→ 8. INPUT3_R |
| 19→32. INPUT2_VSY | 44→ 7. GND |
| 20→31. GND | 45→ 6. AIR_R |
| 21→30. INPUT2_SC | 46→ 5. GND |
| 22→29. GND | 47→ 4. AIR_L |
| 23→28. INPUT3_VSY | 48→ 3. GND |
| 24→27. GND | 49→ 2. AIR_SIF |
| 25→26. INPUT3_SC | 50→ 1. GND |

CN4001 M8 → CN8803 IO3

| | |
|---|---|
| 1→40. V+5V_A | 21→20. LINK_IO2 |
| 2→39. NC | 22→19. GND |
| 3→38. V+3_3V_STB | 23→18. SPDIF_EMMA(DTB) |
| 4→37. NC | 24→17. GND |
| 5→36. GND | 25→16. I2S_SDATA_HDMI |
| 6→35. AIR_SIF | 26→15. I2S_LRCLK_HDMI |
| 7→34. GND | 27→14. I2S_BCLK_HDMI |
| 8→33. RAPID_SW3 | 28→13. GND |
| 9→32. RAPID_SW1 | 29→12. I2S_BCLK_EMMA(DTB) |
| 10→31. In2_CompY_PLUG | 30→11. I2S_LRCLK_EMMA(DTB) |
| 11→30. SLOW_SW3 | 31→10. I2S_SDATA_EMMA(DTB) |
| 12→29. SLOW_SW2 | 32→ 9. GND |
| 13→28. SLOW_SW1 | 33→ 8. SCL_AV |
| 14→27. HP_PLUG | 34→ 7. SDA_AV |
| 15→26. AC_SC3_MUTE | 35→ 6. AC_A_MUTE |
| 16→25. AC_SC2_MUTE | 36→ 5. RST_MSP |
| 17→24. AC_SC1_MUTE | 37→ 4. OTW |
| 18→23. AC_AM_MUTE | 38→ 3. A_NG_B |
| 19→22. AC_HP_MUTE | 39→ 2. IO_DET |
| 20→21. LINK_IO3 | 40→ 1. GND |

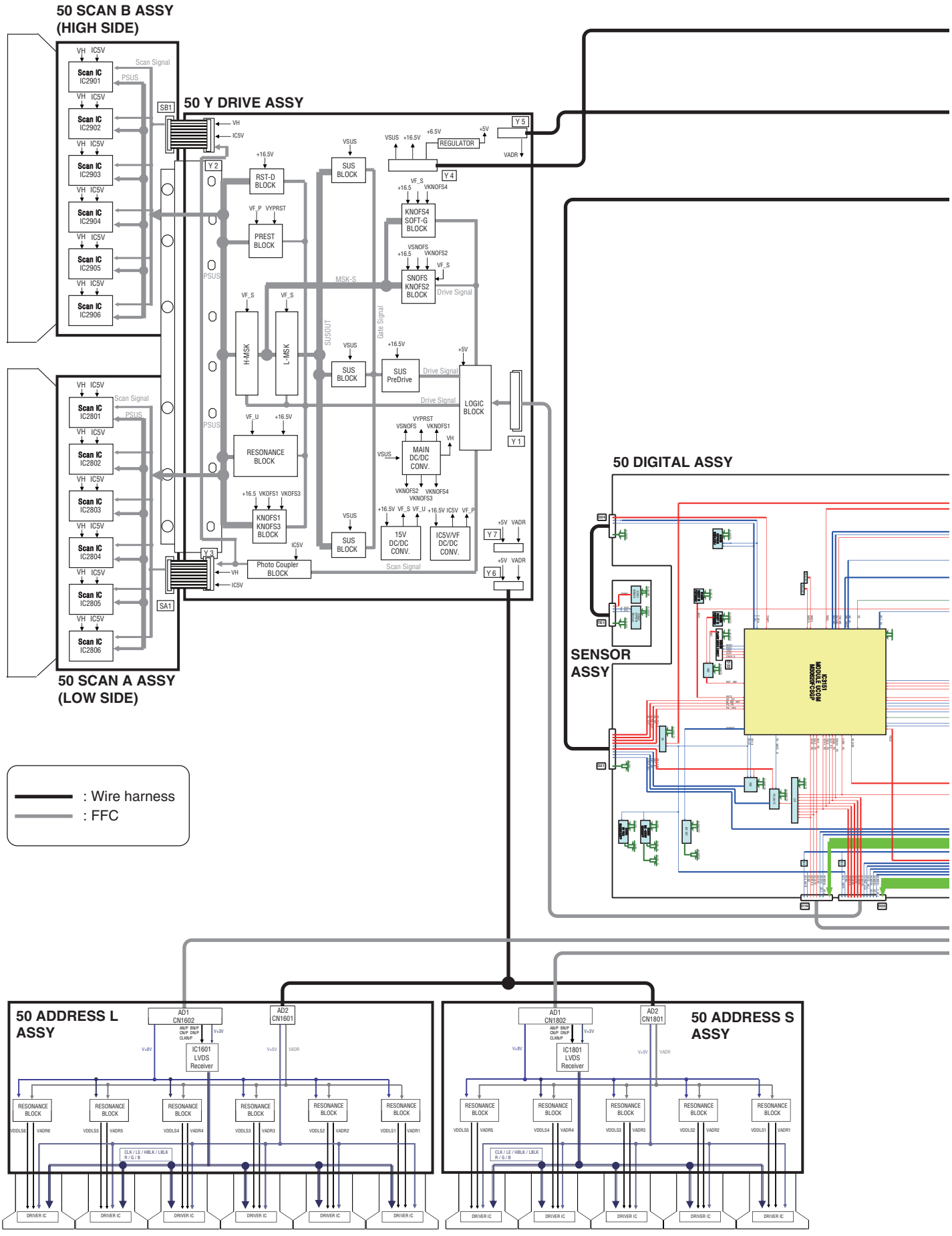
CN4009 M25
→ CN9401 SR1

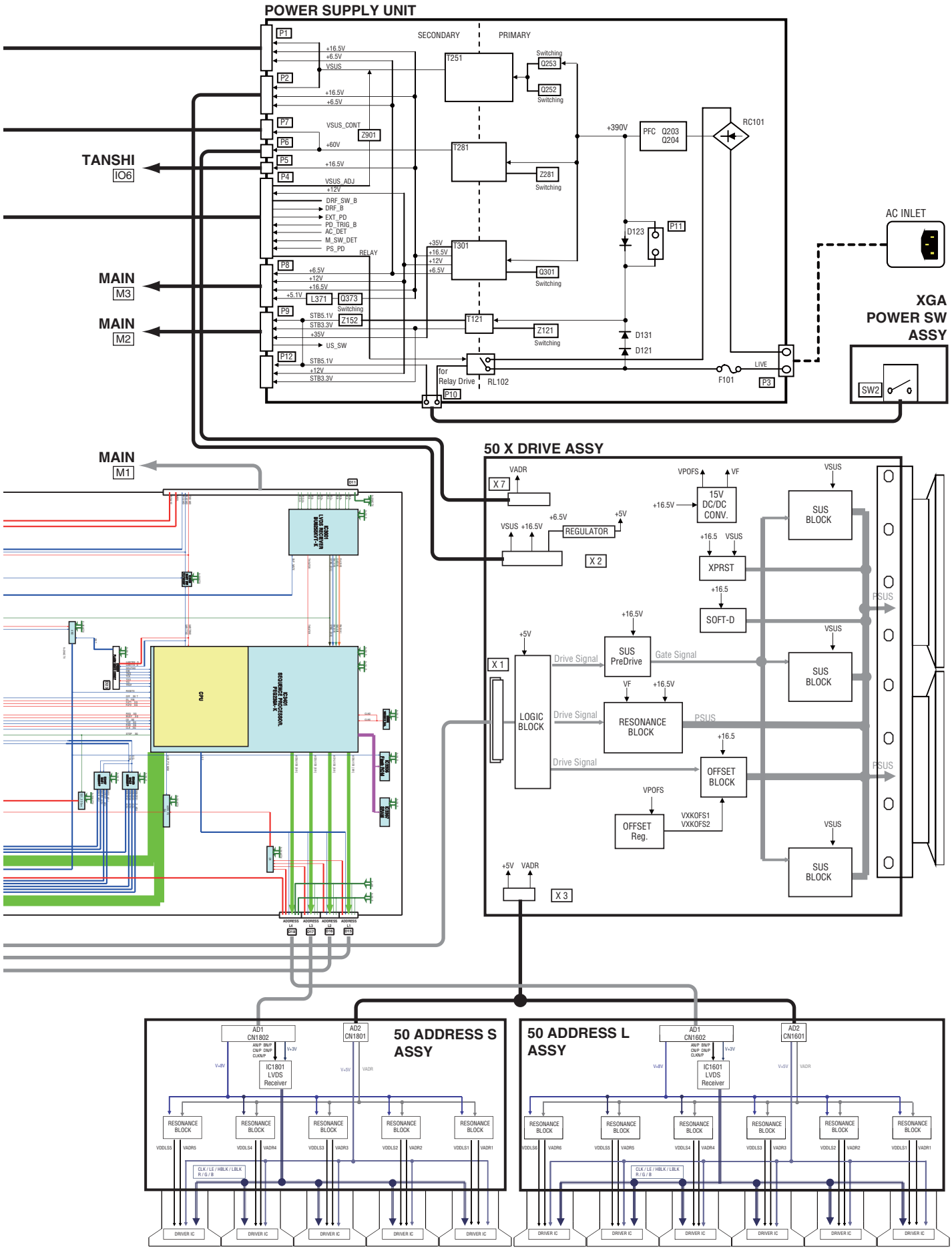
| | |
|---|---|
| 1→9. GND | |
| 2→8. SR_OUT | |
| 3→7. RXD_SR | |
| 4→6. TXD_SR | |
| 5→5. 232C_CH2 | |
| 6→4. 232C_CH3 | |
| 7→3. 232C_CH4 | |
| 8→2. 232C_CH8 | |
| 9→1. GND | |

OVERALL DIAGRAM
PDP-508XD
PDP-5080XD
PDP-5080XA

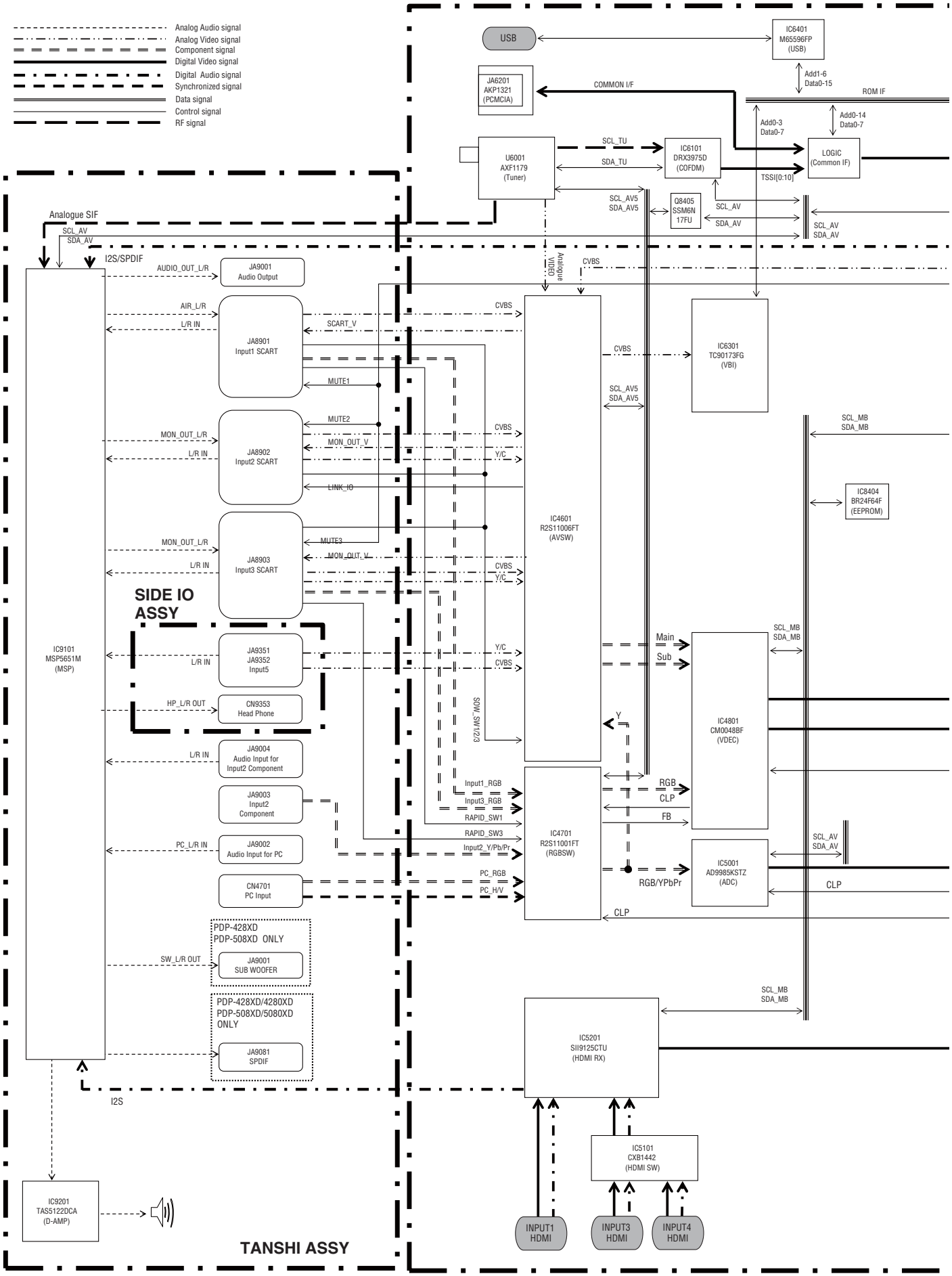
rk found on some component parts
replaced with same parts
gulation authorized) of identical designation.

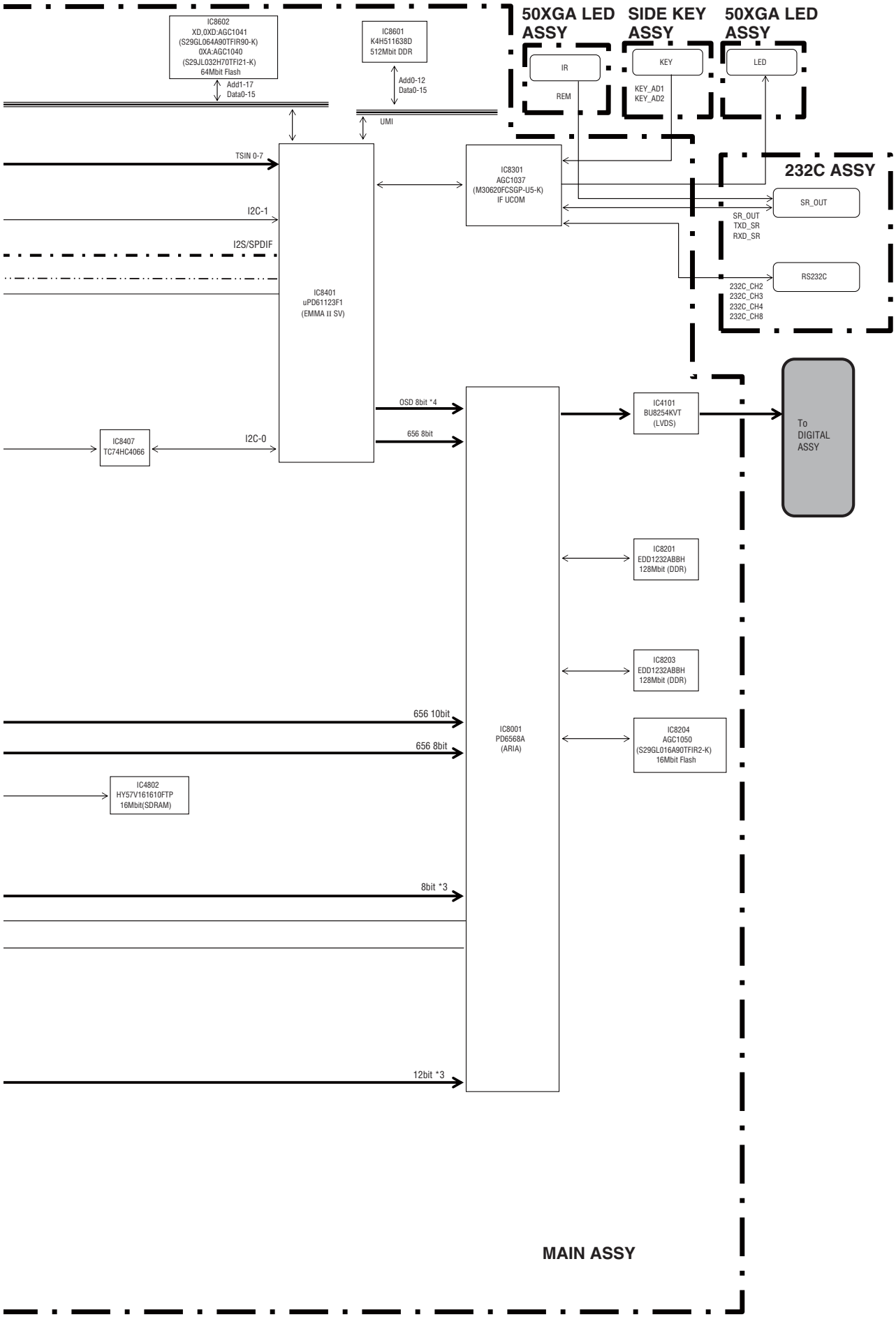
# 4.3 OVERALL BLOCK DIAGRAM (1/2)




POWER SUPPLY UNIT
SECONDARY
PRIMARY
TANSHI
IO6
MAIN
M3
MAIN
M2
MAIN
M1
AC INLET
XGA
POWER SW
ASSY
SW2
50 X DRIVE ASSY
LOGIC BLOCK
REGULATOR
15V DC/DC CONV.
XPRST
SOFT-D
SUS PreDrive
RESONANCE BLOCK
OFFSET BLOCK
OFFSET Reg.
SUS BLOCK
Drive Signal
Gate Signal
PSUS
50 ADDRESS S ASSY
50 ADDRESS L ASSY
IC1801 LVDS Receiver
IC1601 LVDS Receiver
RESONANCE BLOCK
DRIVER IC

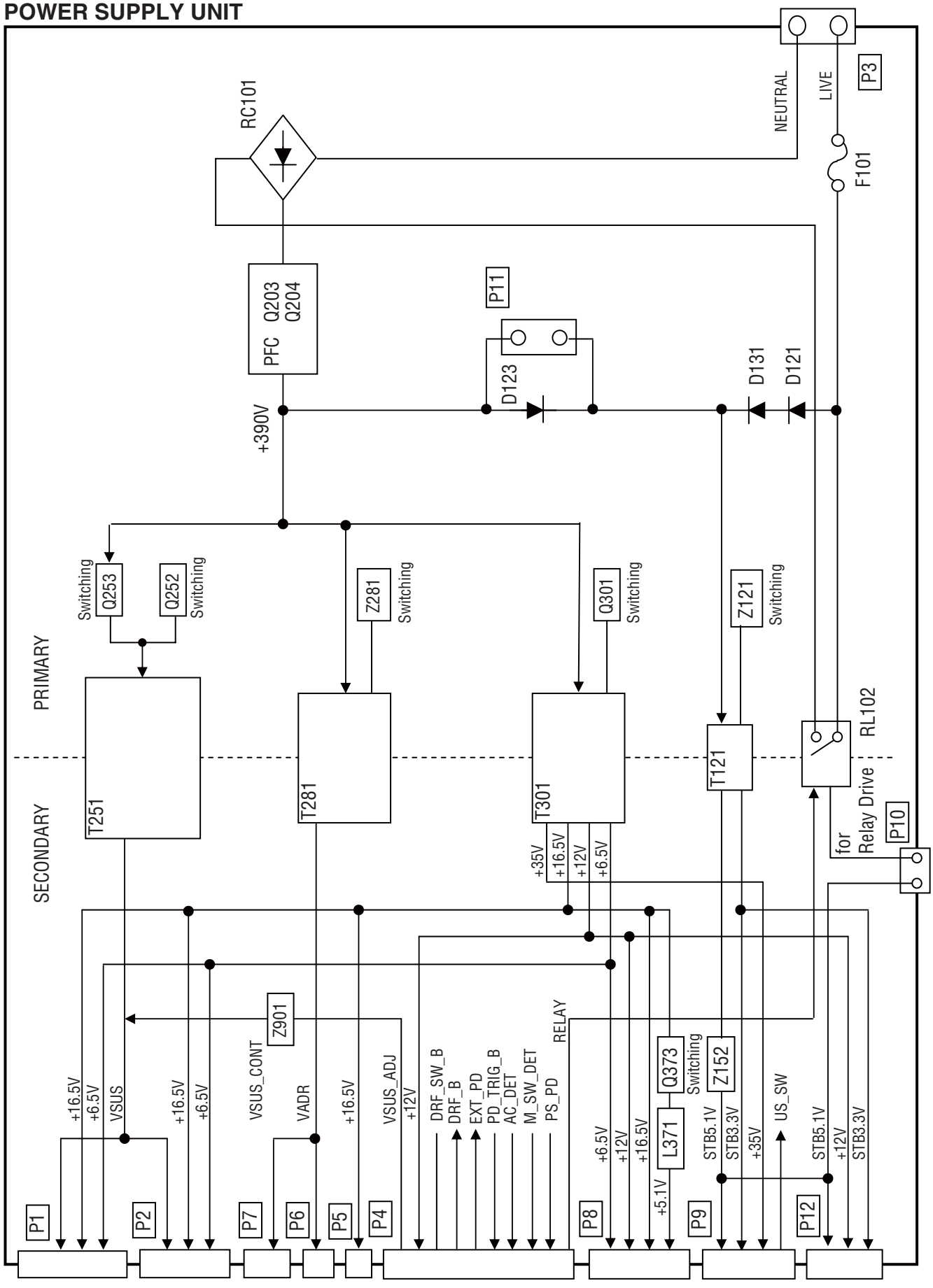
# 4.4 OVERALL BLOCK DIAGRAM (2/2)




50XGA LED ASSY
SIDE KEY ASSY
50XGA LED ASSY
IC8602
XD,0XD:AGC1041
(S29GL064A90TFIR90-K)
0XA:AGC1040
(S29JL032H70TFI21-K)
64Mbit Flash
Add1-17
Data0-15
IC8601
K4H511638D
512Mbit DDR
Add0-12
Data0-15
IR
REM
KEY
KEY_AD1
KEY_AD2
LED
UMI
TSIN 0-7
I2C-1
I2S/SPDIF
IC8401
uPD61123F1
(EMMA II SV)
IC8301
AGC1037
(M30620FCSGP-U5-K)
IF UCOM
232C ASSY
SR_OUT
SR_OUT
TXD_SR
RXD_SR
RS232C
232C_CH2
232C_CH3
232C_CH4
232C_CH8
OSD 8bit *4
656 8bit
I2C-0
IC8407
TC74HC4066
IC4101
BU8254KVT
(LVDS)
To
DIGITAL
ASSY
IC8201
EDD1232ABBH
128Mbit (DDR)
IC8203
EDD1232ABBH
128Mbit (DDR)
656 10bit
656 8bit
IC8001
PD6568A
(ARIA)
IC8204
AGC1050
(S29GL016A90TFIR2-K)
16Mbit Flash
IC4802
HY57V161610FTP
16Mbit(SDRAM)
8bit *3
12bit *3
MAIN ASSY

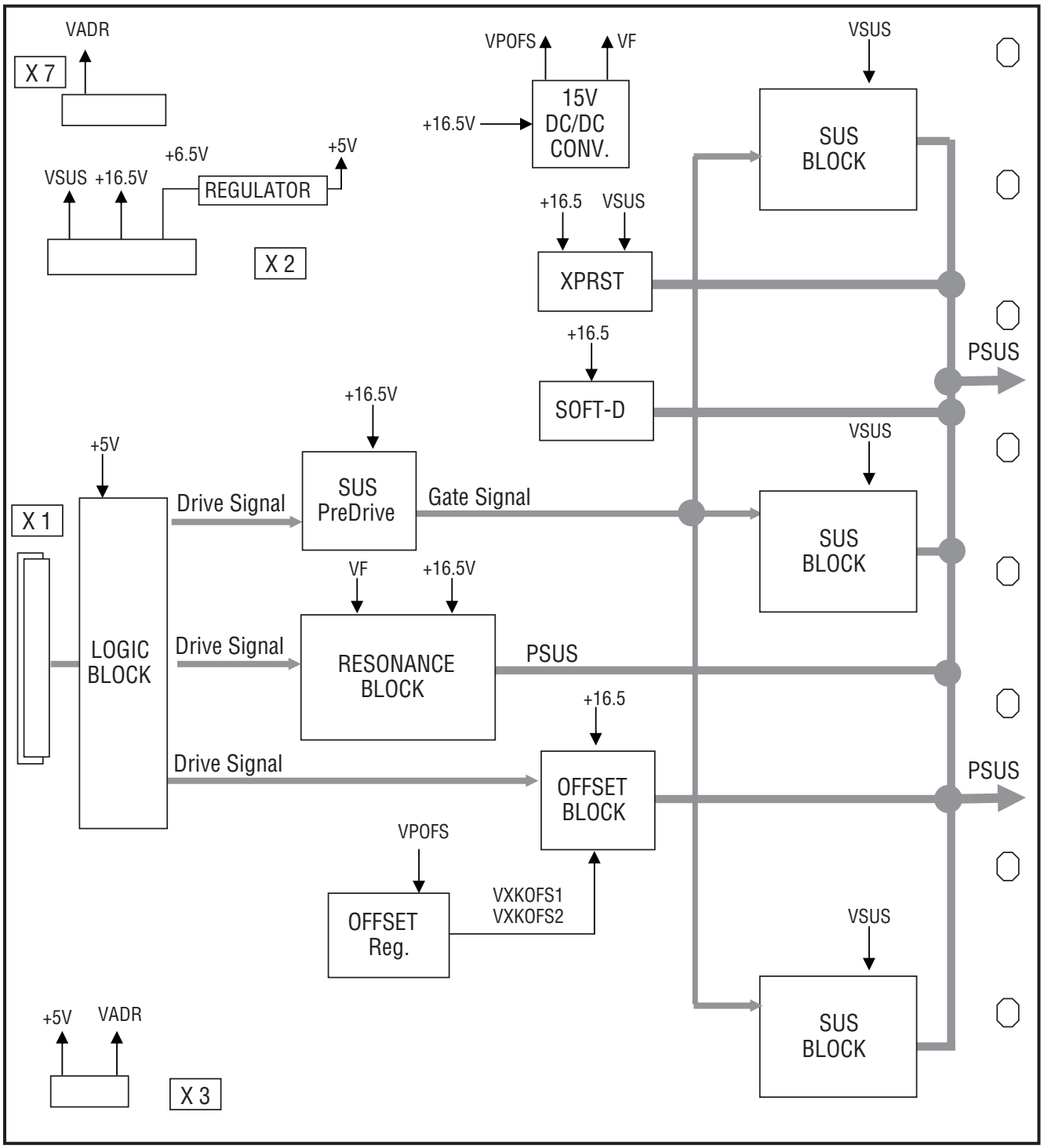
# 4.5 POWER SUPPLY UNIT

## POWER SUPPLY UNIT

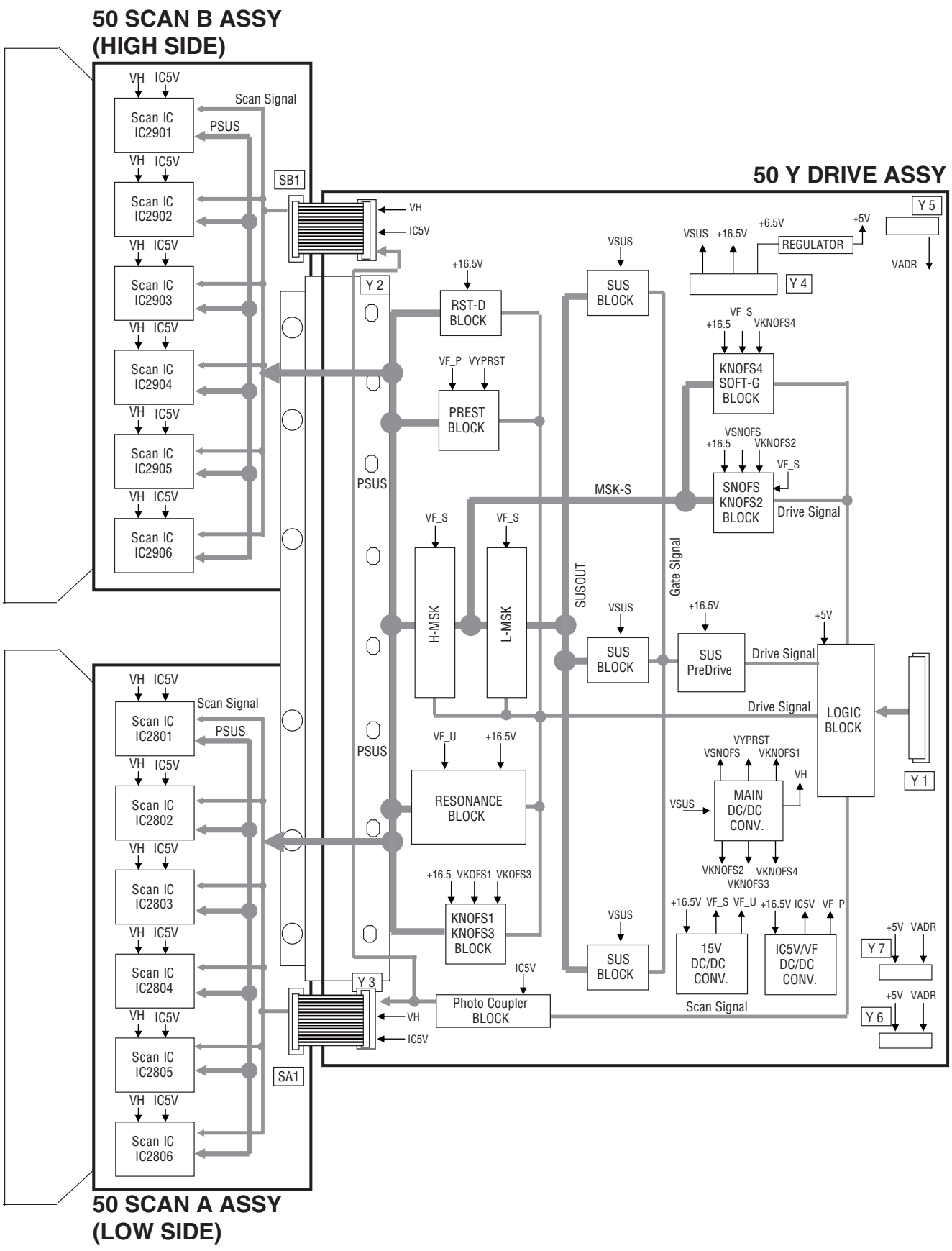


# 4.6 50 X DRIVE ASSY

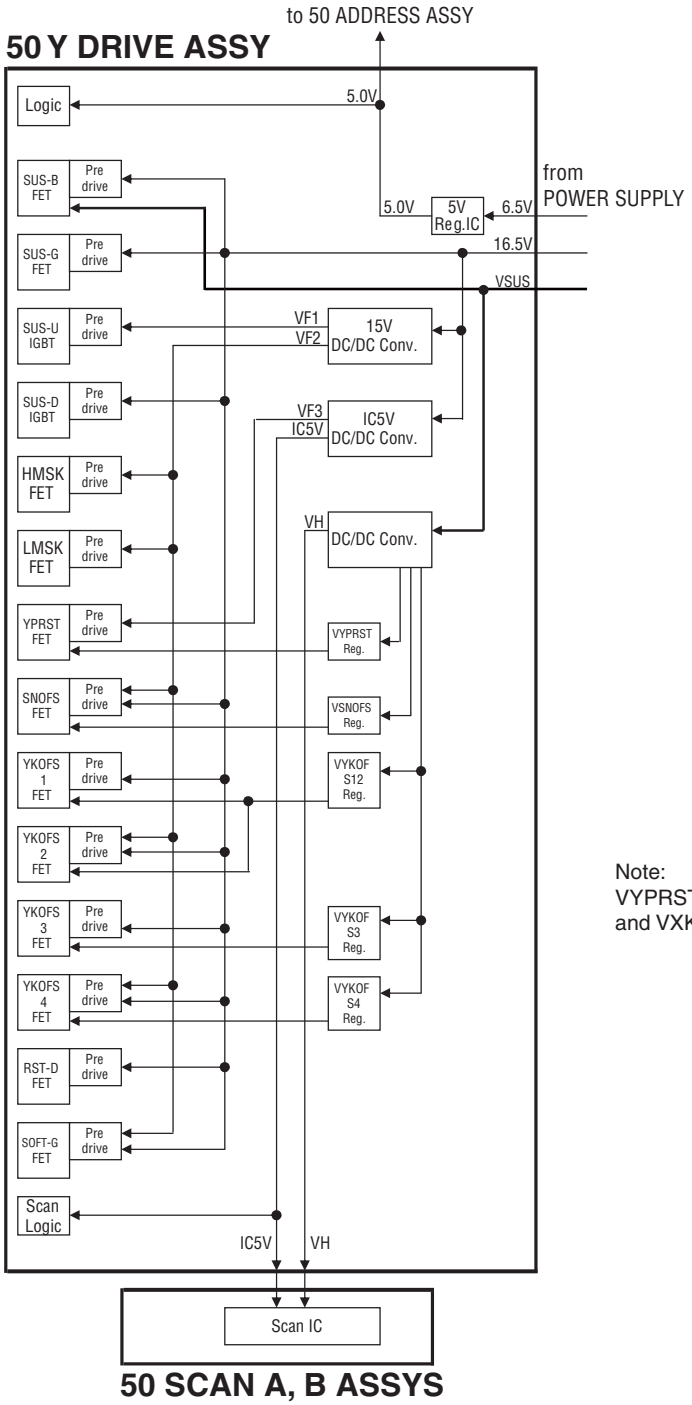
## 50 X DRIVE ASSY

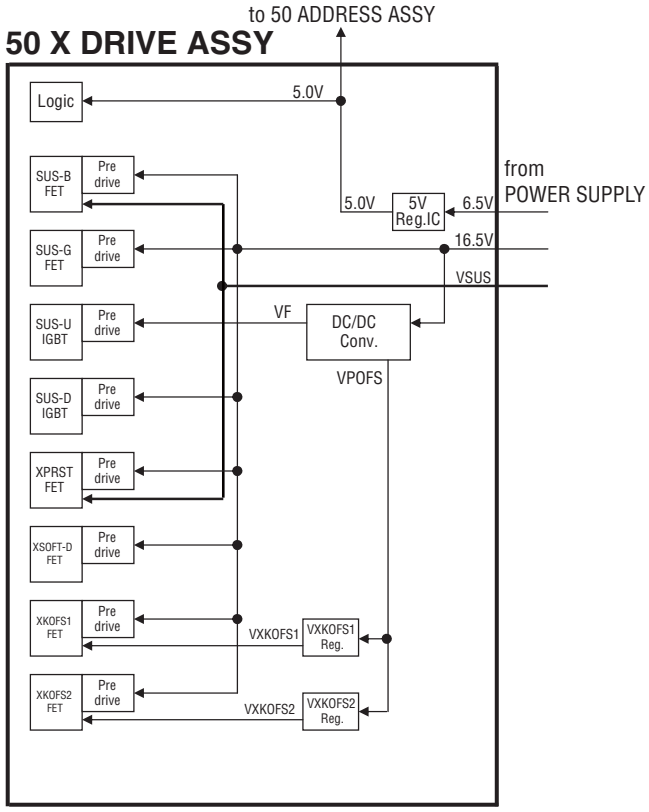


# 4.7 50 Y DRIVE, 50 SCAN A and B ASSYS



# 4.8 POWER SUPPLY BLOCK of 50 X, Y DRIVE and 50 SCAN A, B ASSYS

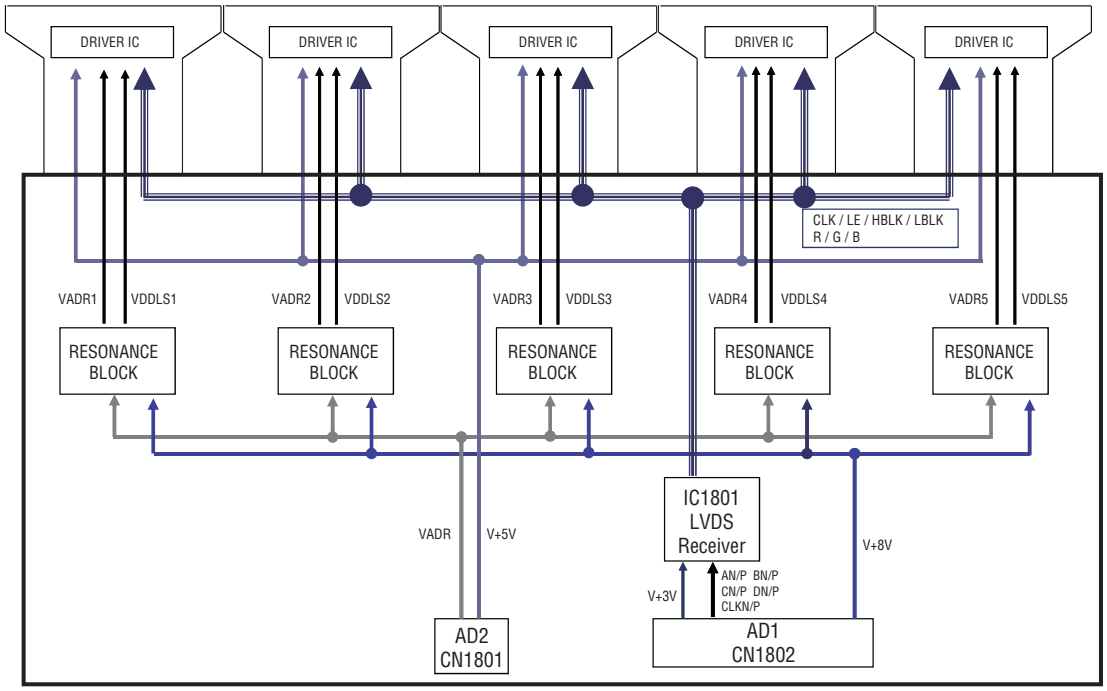


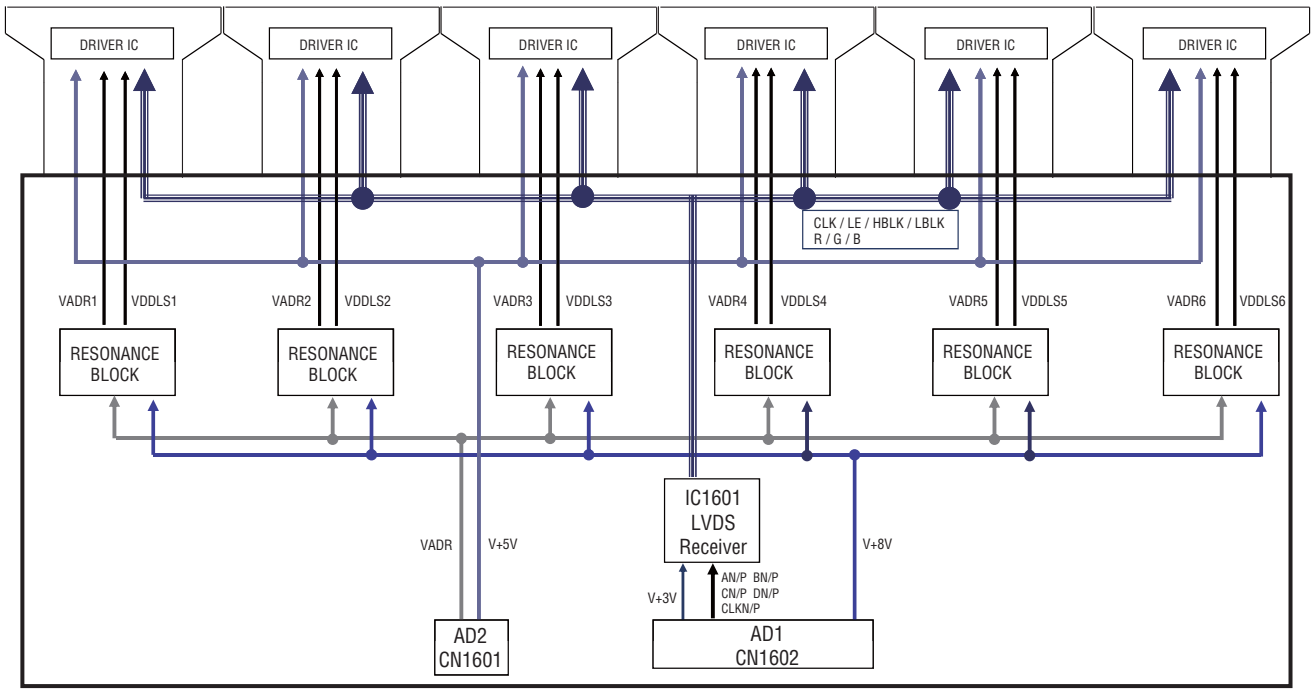

Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4 and VXKOFS2 voltages are electrical volume controls.

# 4.9 50 ADDRESS L and S ASSYS

## 50 ADDRESS S ASSY

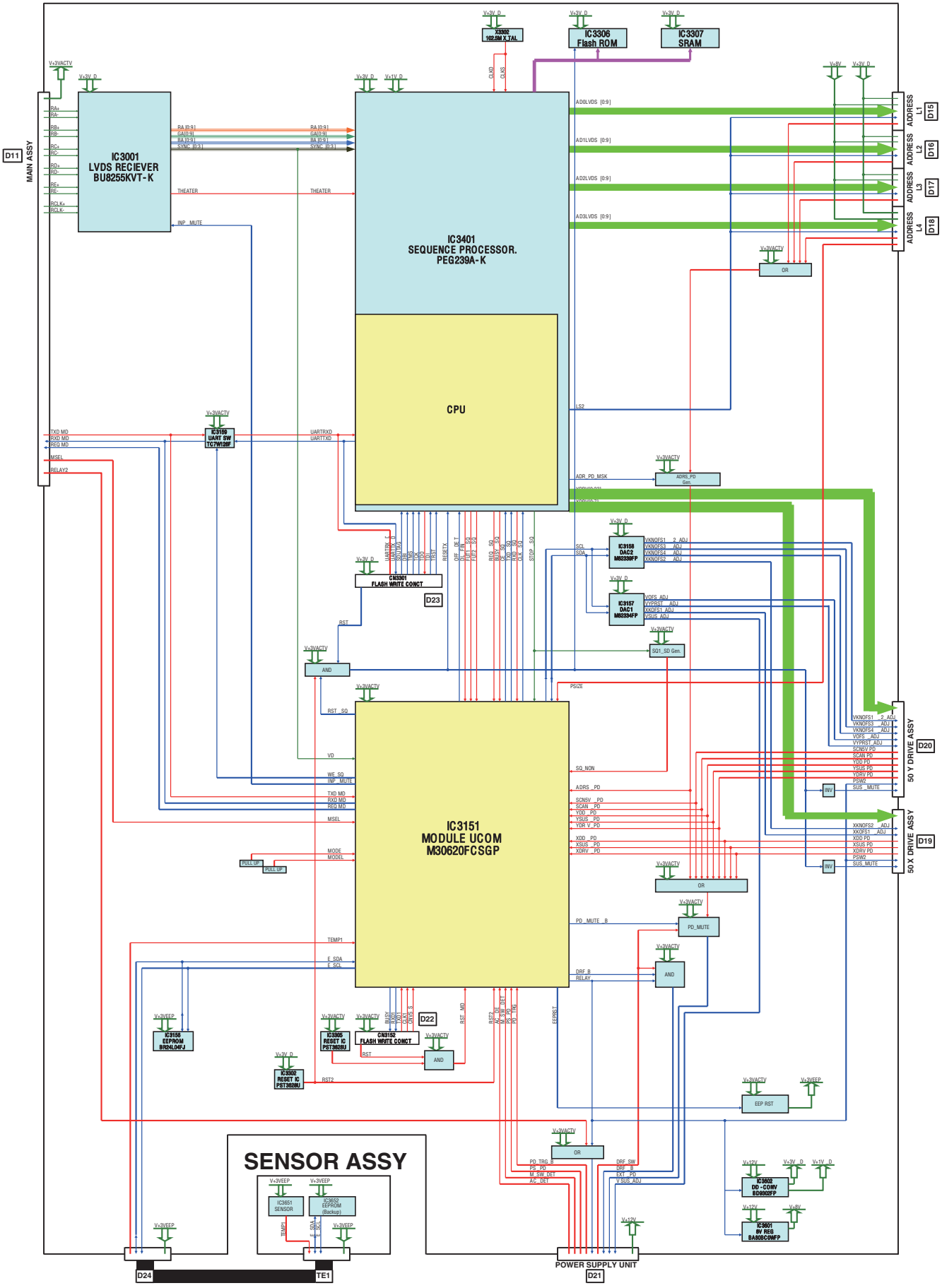



## 50 ADDRESS L ASSY

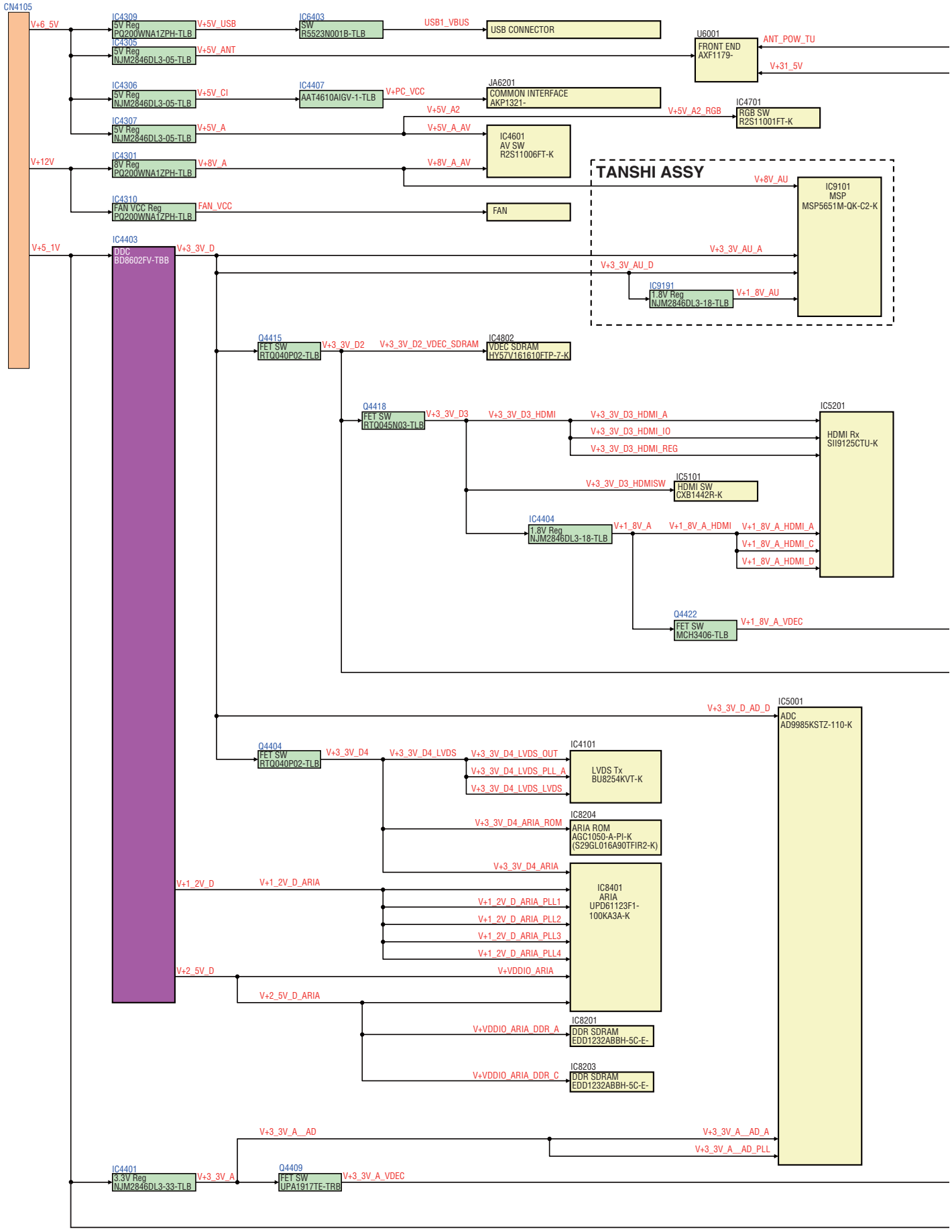


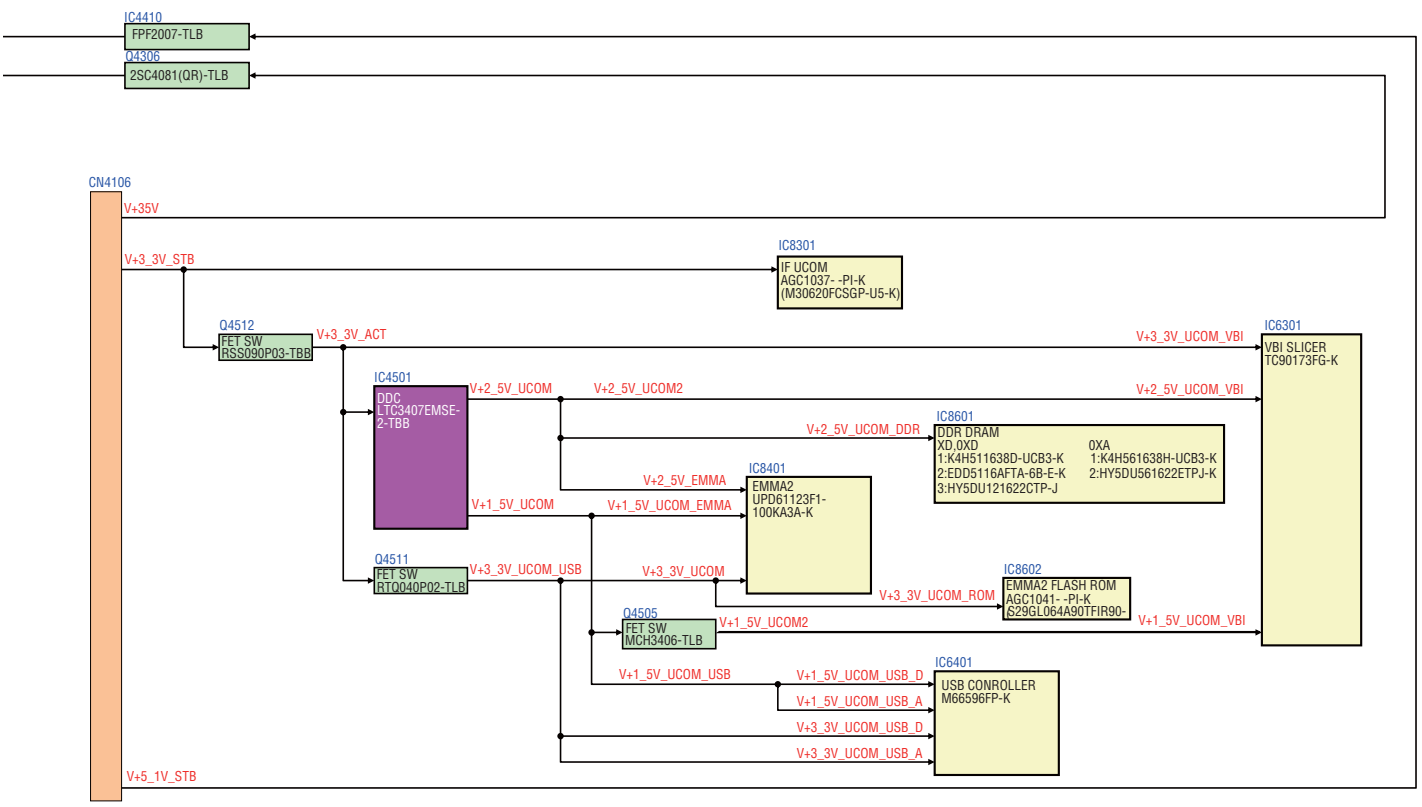
# 4.10 50 DIGITAL and SENSOR ASSYS

## 50 DIGITAL ASSY



# 4.11 POWER SUPPLY BLOCK of MULTI BASE SECTION

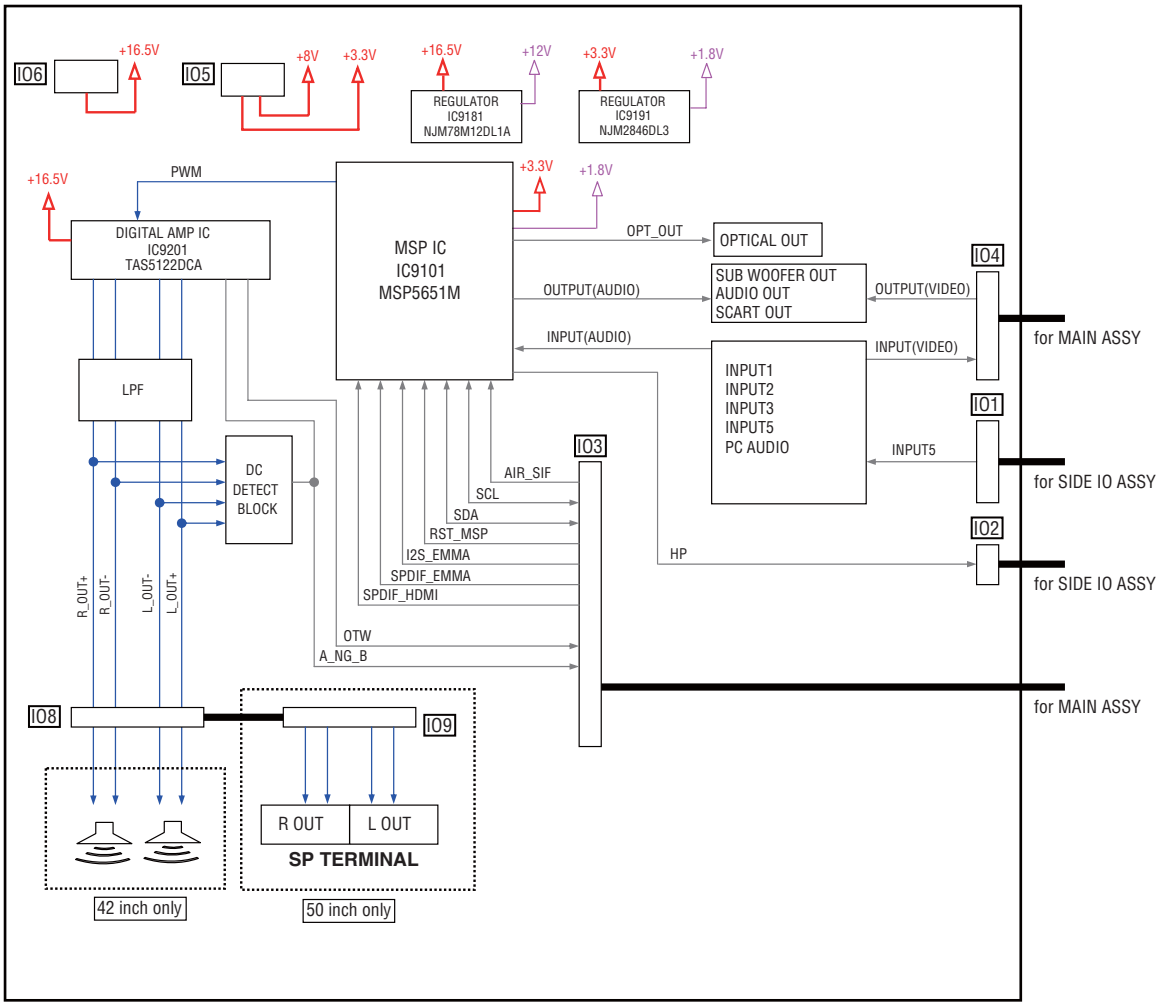



IC4410
FPF2007-TLB
Q4306
2SC4081(QR)-TLB
CN4106
V+35V
V+3_3V_STB
IC8301
IF UCOM
AGC1037- -PI-K
(M30620FCSGP-U5-K)
Q4512
FET SW
RSS090P03-TBB
V+3_3V_ACT
V+3_3V_UCOM_VBI
IC6301
VBI SLICER
TC90173FG-K
IC4501
DDC
LTC3407EMSE-
2-TBB
V+2_5V_UCOM
V+2_5V_UCOM2
V+2_5V_UCOM_VBI
IC8601
DDR DRAM
XD,0XD
1:K4H511638D-UCB3-K
2:EDD5116AFTA-6B-E-K
3:HY5DU121622CTP-J
0XA
1:K4H561638H-UCB3-K
2:HY5DU561622ETPJ-K
V+2_5V_UCOM_DDR
V+2_5V_EMMA
IC8401
EMMA2
UPD61123F1-
100KA3A-K
V+1_5V_UCOM
V+1_5V_UCOM_EMMA
Q4511
FET SW
RTQ040P02-TLB
V+3_3V_UCOM_USB
V+3_3V_UCOM
IC8602
EMMA2 FLASH ROM
AGC1041- -PI-K
(S29GL064A90TFIR90-
V+3_3V_UCOM_ROM
Q4505
FET SW
MCH3406-TLB
V+1_5V_UCOM2
V+1_5V_UCOM_VBI
IC6401
USB CONROLLER
M66596FP-K
V+1_5V_UCOM_USB
V+1_5V_UCOM_USB_D
V+1_5V_UCOM_USB_A
V+3_3V_UCOM_USB_D
V+3_3V_UCOM_USB_A
V+5_1V_STB

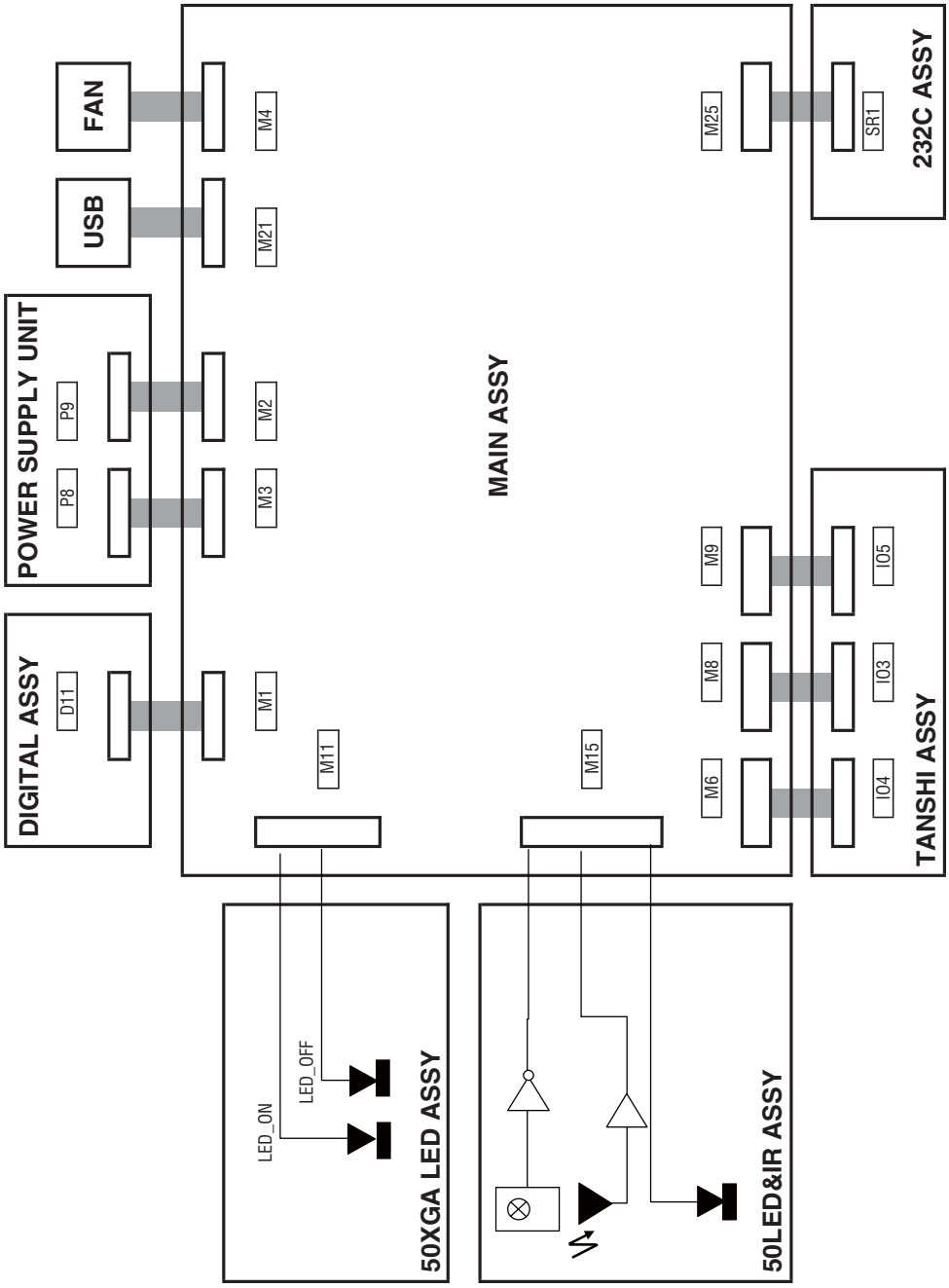
IC4801
VDEC
CM0048BF-K
V+1_8V_A_VDEC_D
V+1_8V_A_VDEC_PLL
V+3_3V_D2_VDEC_D
V+3_3V_A_VDEC_A
IC4406
1.8V Reg
NJM2846DL3-18-TLB
V+1_8V_BE
V+1_8V_BE_COFDEM
IC4405
3.3V Reg
NJM2846DL3-33-TLB
V+3_3V_BE
V+3_3V_BE_COFDEM
IC6101
COFDEM
DRX3975D-QI-B1-K

# 4.12 TANSHI ASSY

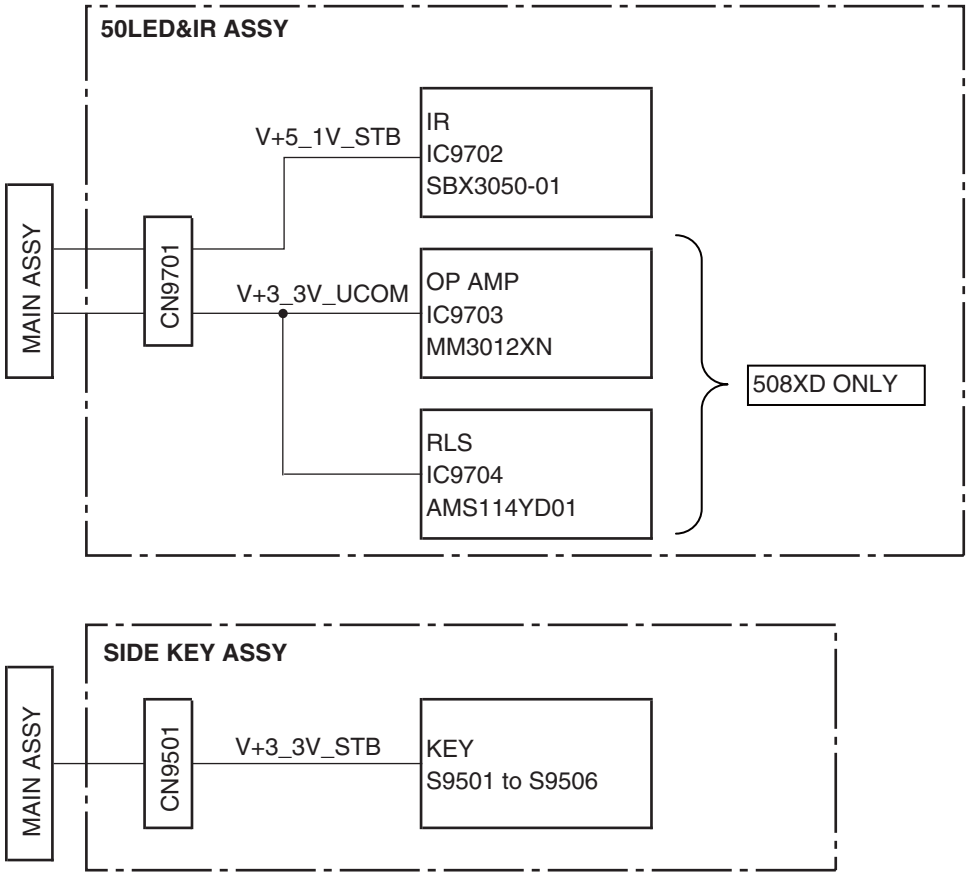
## TANSHI ASSY



# 4.13 50XGA LED and 50LED&IR ASSYS



# 4.14 POWER SUPPLY BLOCK of 50LED&IR and SIDE KEY ASSYS



# 5. DIAGNOSIS

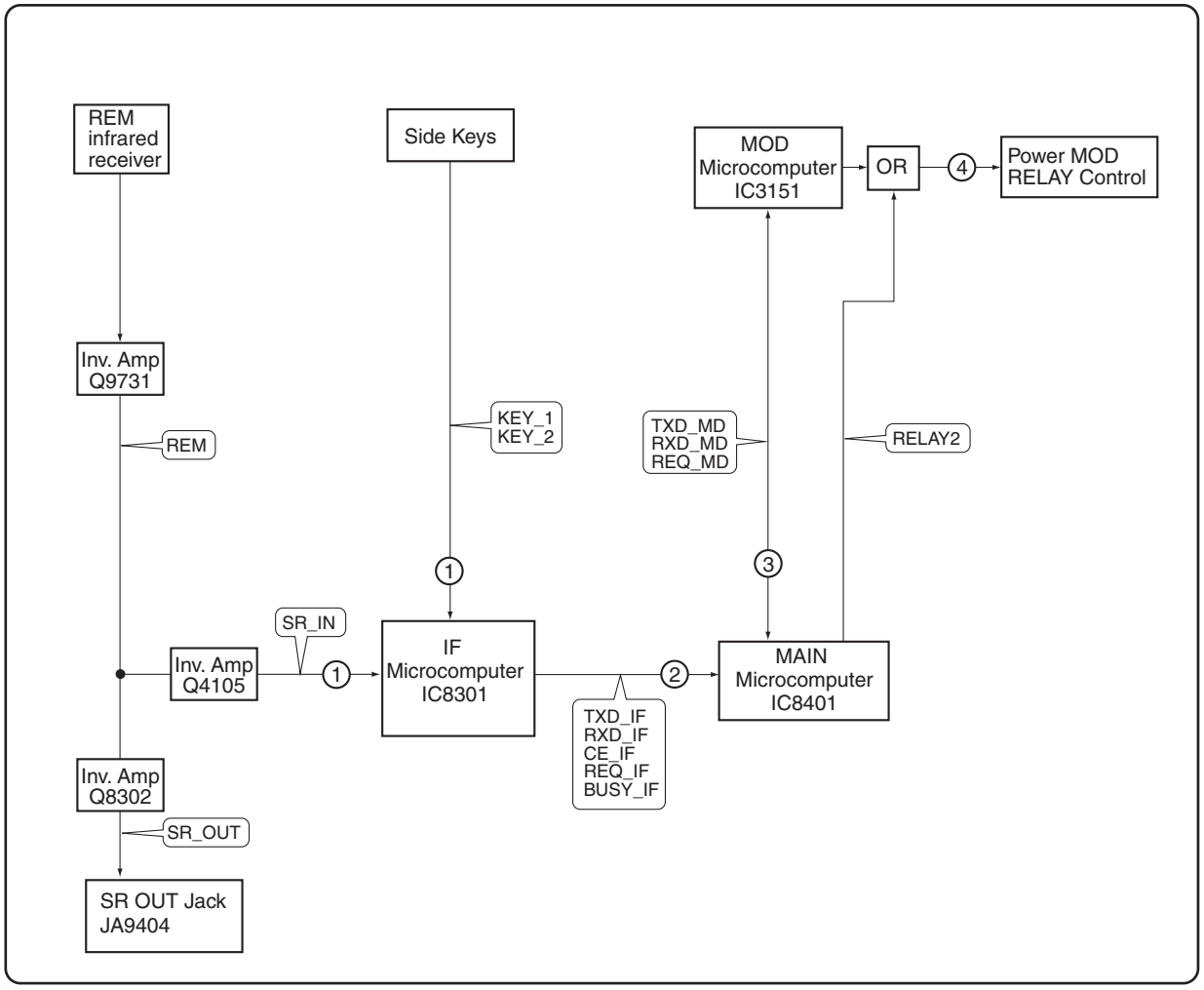
## 5.1 POWER SUPPLY OPERATION

### 5.1.1 LED DISPLAY INFORMATION

**LED Pattern**

| State | LED Pattern | Remarks |
|---|---|---|
| AC OFF or Main power switch OFF | | |
| Standby power management | | |
| Power ON (Screen ON) | | |
| Power-down | B: Once, Twice, n times, 2.5s, Once<br>R: 500ms | |
| Shutdown | B: 500ms<br>R: Once, Twice, n times, 2.5s, Once | |
| No digital adjustment data copied for backup | B: 200ms | The LEDs flash only while the panel is turned on. |
| In the process of rewriting the program of the microcomputer | B: 100ms<br>R: 100ms | |
| During factory operation | | |
| During reservation video recording (Unit: Standby) | | Step-up D model, Regular D model only |
| During reservation video recording (Unit: ON) | | Step-up D model, Regular D model only |
| Sleep timer | | Regular A model only |

## 5.1.2 POWER ON SEQUENCE




① : The remote control (or KEY) signal is input to the IF microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit (or KEY) to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the MOD microcomputer.
④ : The relay is controlled with logical OR interpretation of control signals by the main microcomputer and module (MOD) microcomputer.

## 5.1.3 DETAILS OF POWER ON SEQUENCE

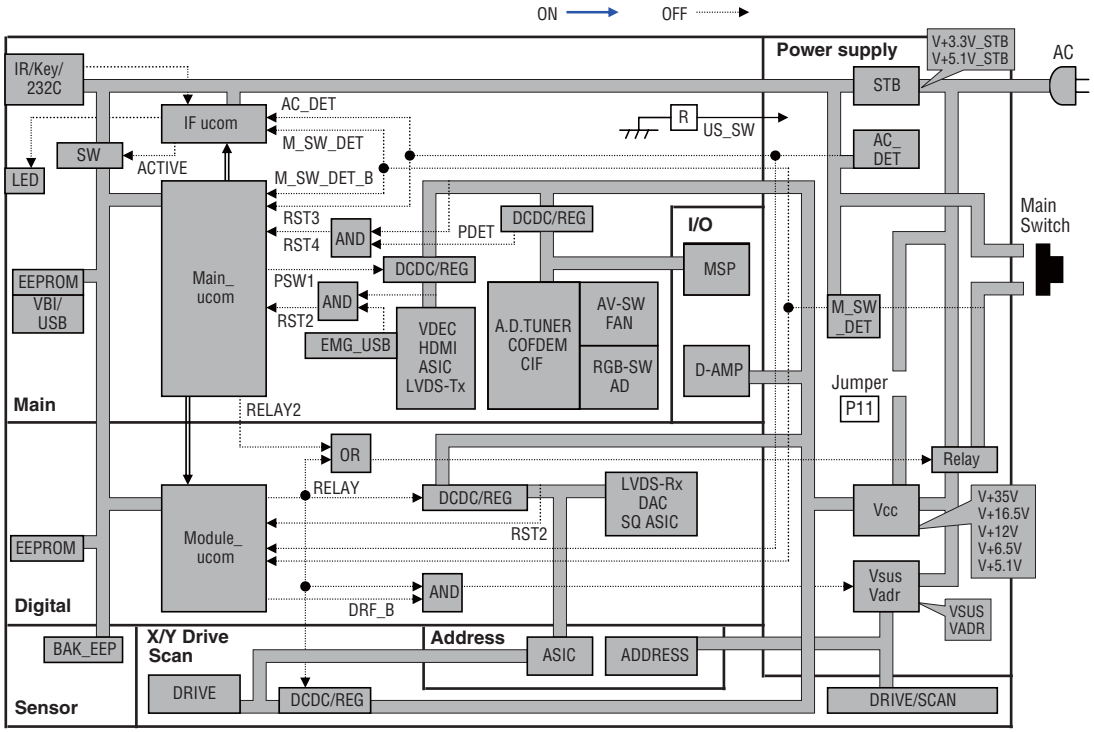
### Power supply status - AC off

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




The state of AC cord is pulled out.

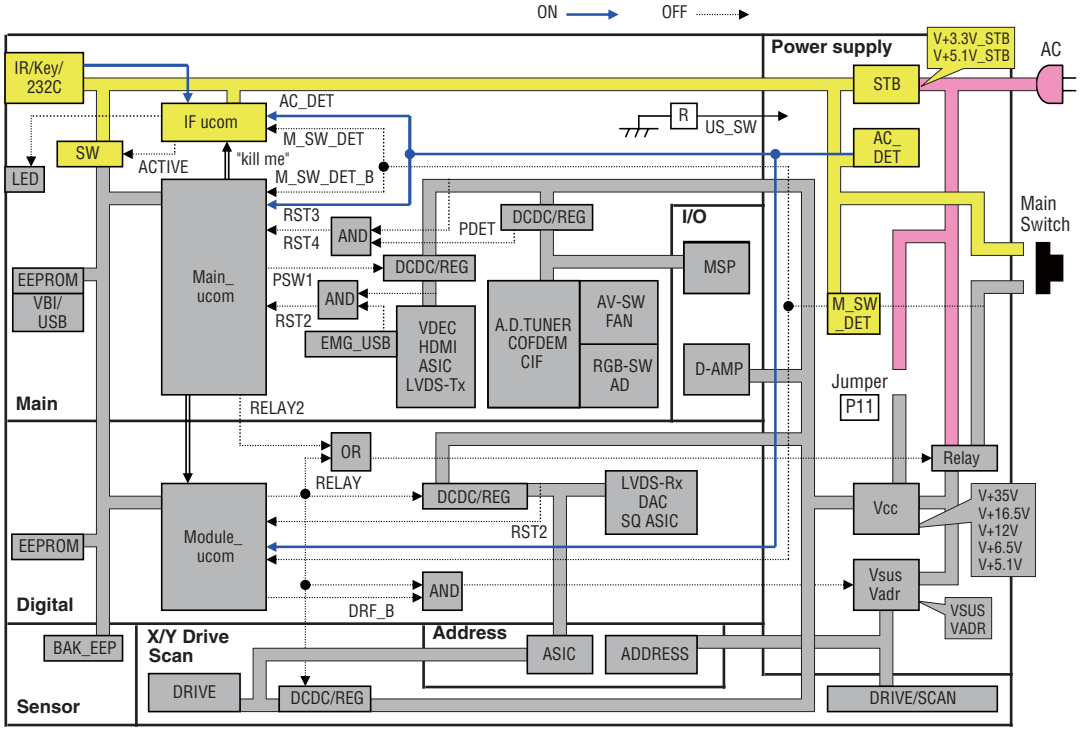
### Power supply status - Passive standby (Main switch off)

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




The user operation is invalid. (All LED: OFF)
Among standby power devices, only the IF microcomputer periphery operates.

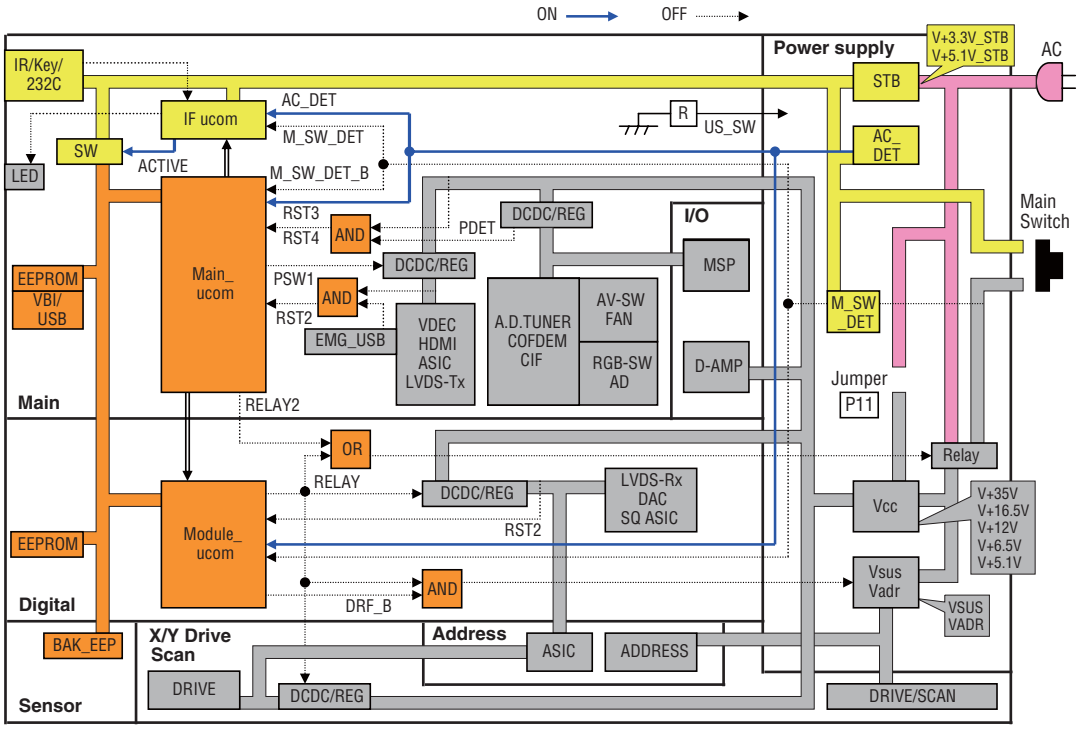
## Power supply status - Active standby (Main switch off)

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | **ON** |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




The user operation is invalid. (All LED: OFF)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

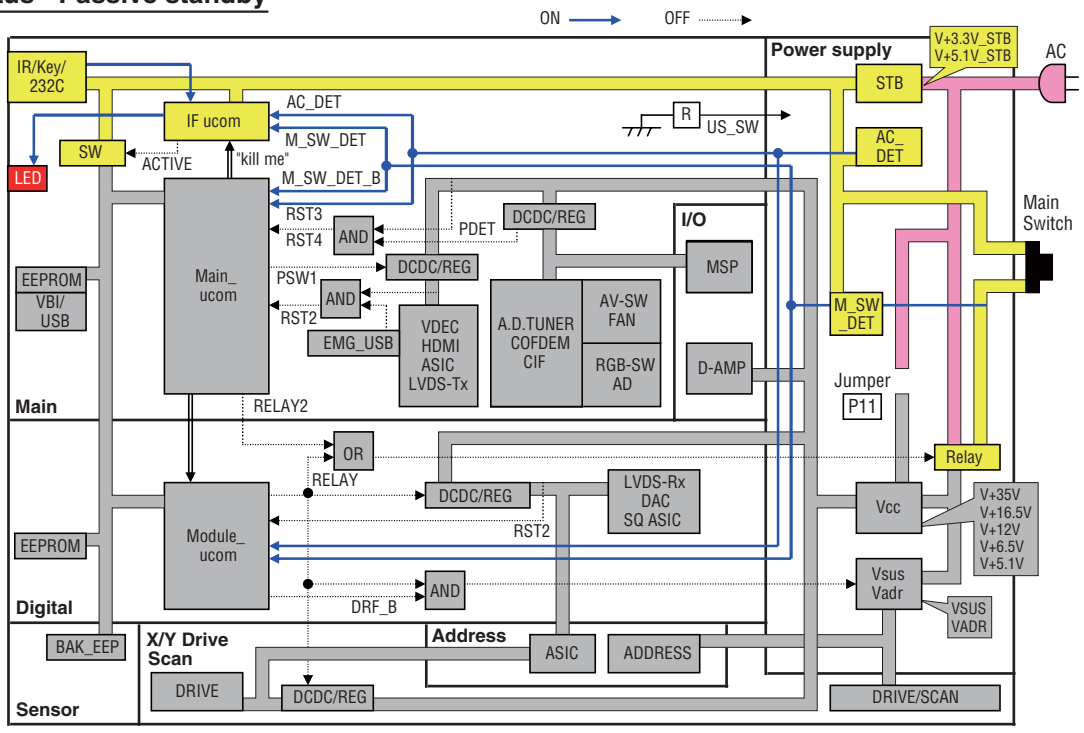
## Power supply status - Passive standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | OFF |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




Remote control unit waiting state. (Red LED: ON)
Among standby power devices, only the IF microcomputer periphery operates.

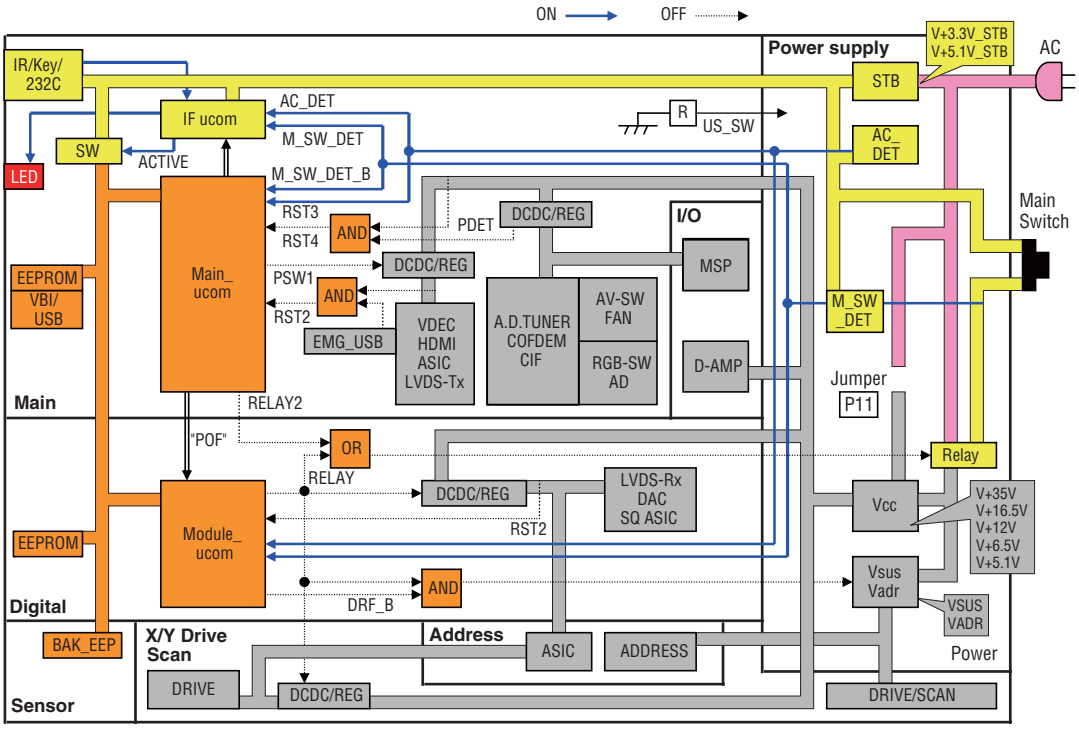
## Power supply status - Active standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | OFF |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | OFF |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




Remote control unit waiting state. (Red LED: ON)
Standby power devices (periphery of IF/Main/Module microcomputer) operate.

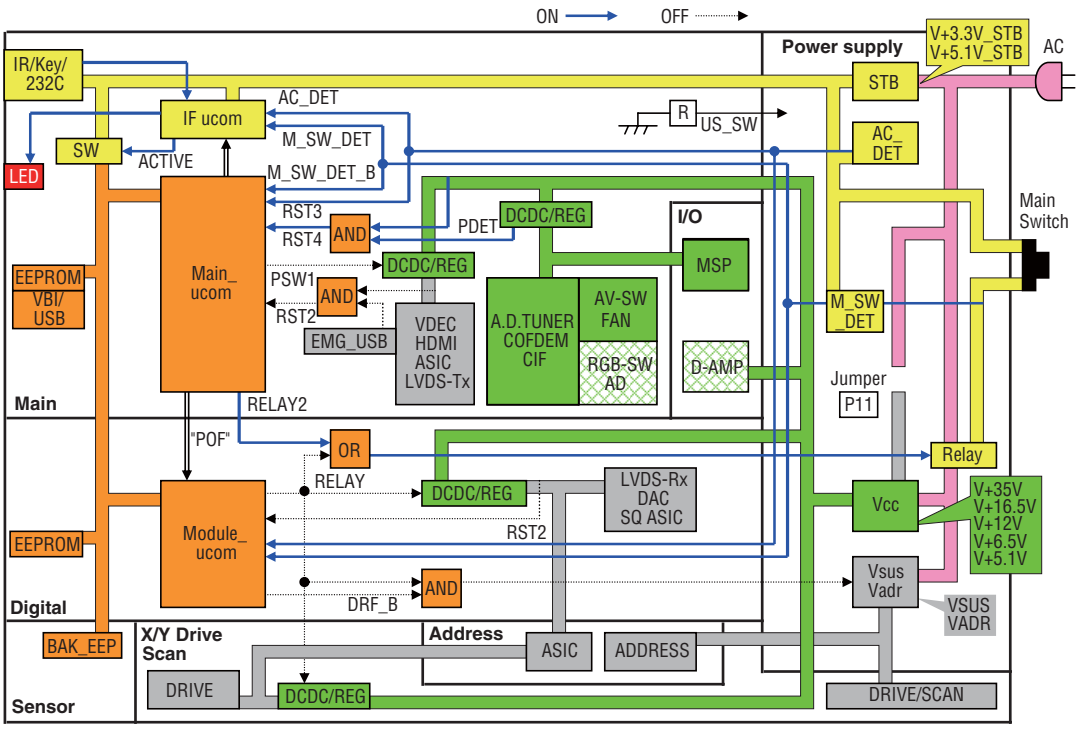
## Power supply status - Functional standby

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | ON |
| Main: PSW1 | OFF |
| Module: RELAY | OFF |
| Module: DRF_B | OFF |

Microcomputer input port state

| | |
|---|---|
| Main: RST4 | ON |
| Main: RST2 | OFF |
| Module: RST2 | OFF |




Remote control unit waiting state. (Red LED: ON)
Standby power device and some Vcc power devices operate.
RGB-SW/AD/D-AMP are electrified, but uses the power-saving mode function of the IC.

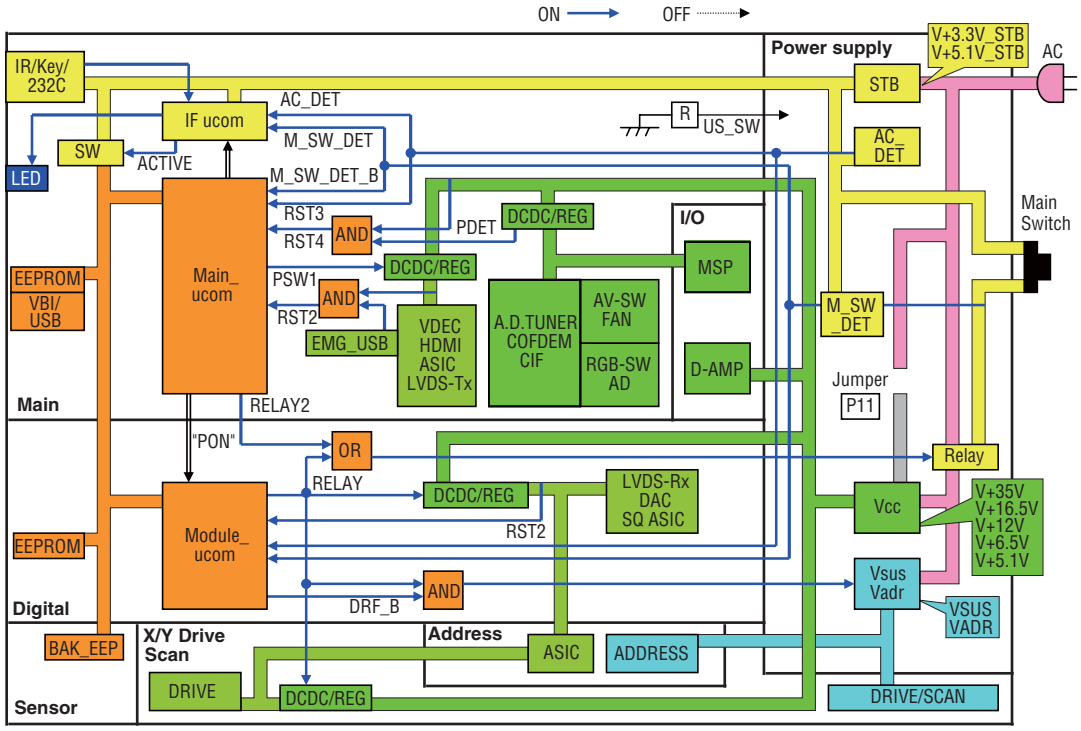
## Power supply status - ON

Microcomputer output port state

| | |
|---|---|
| IF: ACTIVE | ON |
| Main: RELAY2 | ON |
| Main: PSW1 | ON |
| Module: RELAY | ON |
| Module: DRF_B | ON |

Microcomputer input port state

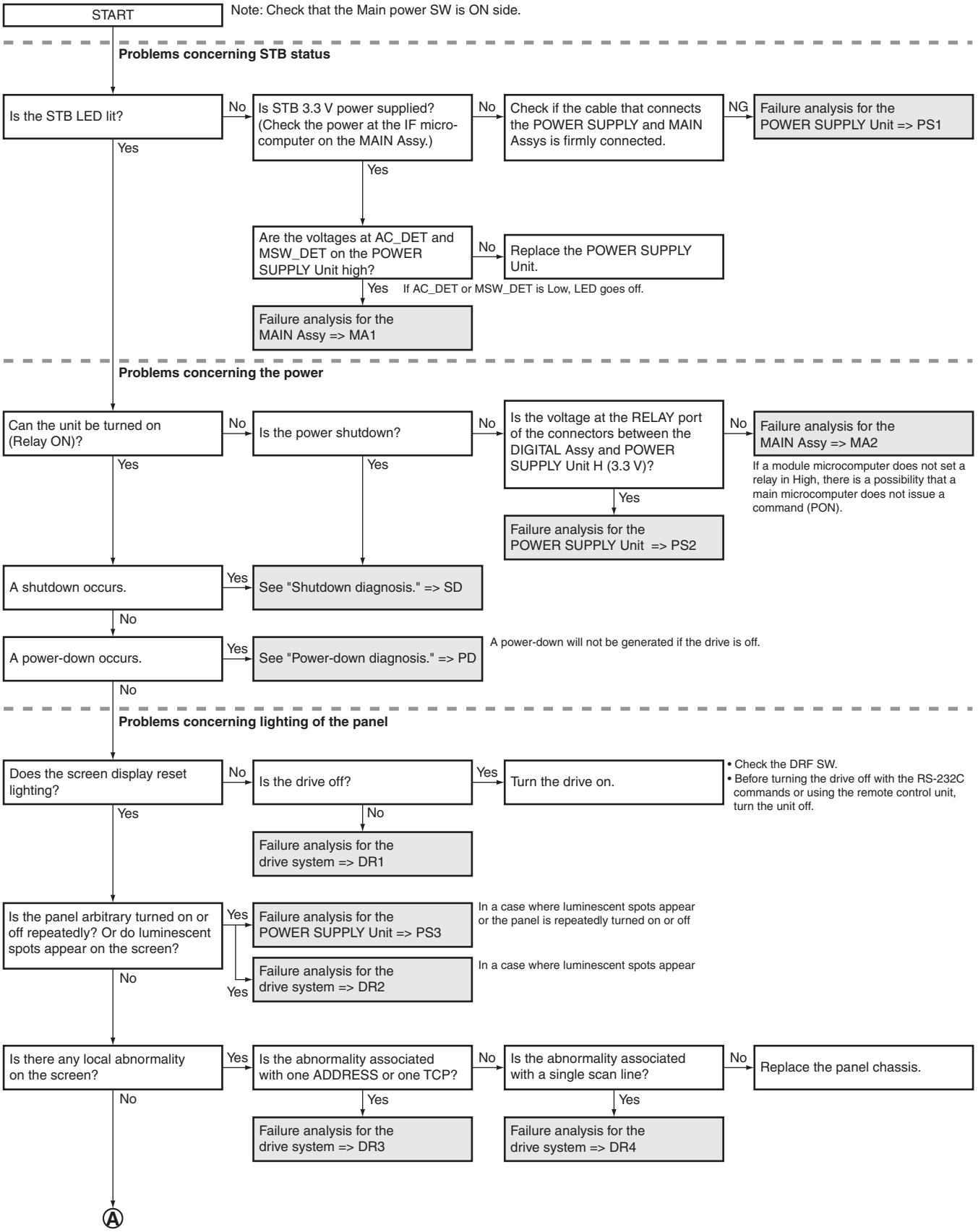
| | |
|---|---|
| Main: RST4 | ON |
| Main: RST2 | ON |
| Module: RST2 | ON |

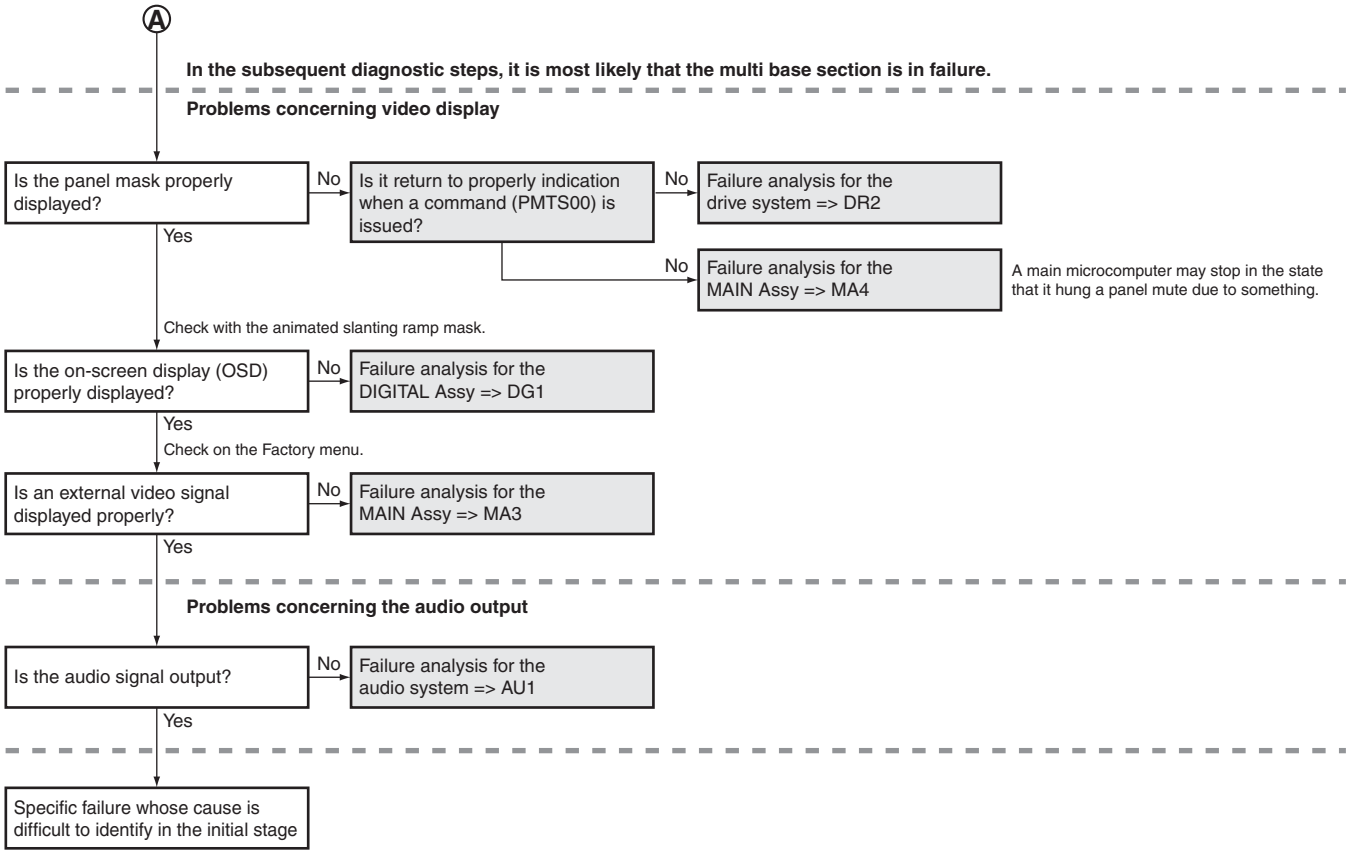



A state when it displays a picture on the PDP. (Blue LED: ON)
All devices are electrified.

# 5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS
## 5.2.1 WHOLE UNIT

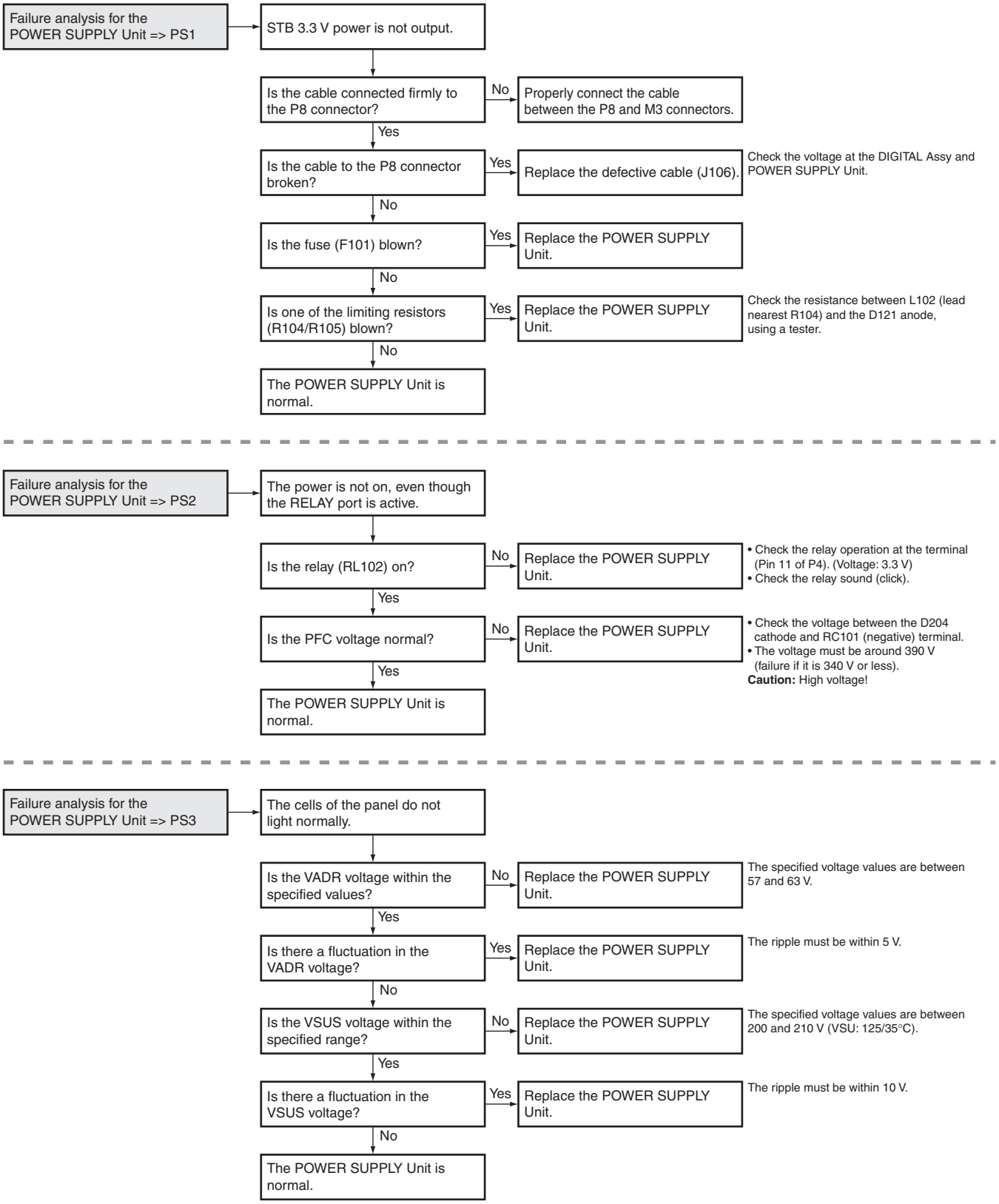
### Flowchart of Failure Analysis for The Whole Unit


START
Note: Check that the Main power SW is ON side.
Problems concerning STB status
Is the STB LED lit?
No
Is STB 3.3 V power supplied? (Check the power at the IF micro-computer on the MAIN Assy.)
No
Check if the cable that connects the POWER SUPPLY and MAIN Assys is firmly connected.
NG
Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Yes
Are the voltages at AC_DET and MSW_DET on the POWER SUPPLY Unit high?
No
Replace the POWER SUPPLY Unit.
Yes
If AC_DET or MSW_DET is Low, LED goes off.
Failure analysis for the MAIN Assy => MA1
Problems concerning the power
Can the unit be turned on (Relay ON)?
No
Is the power shutdown?
No
Is the voltage at the RELAY port of the connectors between the DIGITAL Assy and POWER SUPPLY Unit H (3.3 V)?
No
Failure analysis for the MAIN Assy => MA2
If a module microcomputer does not set a relay in High, there is a possibility that a main microcomputer does not issue a command (PON).
Yes
Yes
Yes
Failure analysis for the POWER SUPPLY Unit => PS2
A shutdown occurs.
Yes
See "Shutdown diagnosis." => SD
No
A power-down occurs.
Yes
See "Power-down diagnosis." => PD
A power-down will not be generated if the drive is off.
No
Problems concerning lighting of the panel
Does the screen display reset lighting?
No
Is the drive off?
Yes
Turn the drive on.
• Check the DRF SW.
• Before turning the drive off with the RS-232C commands or using the remote control unit, turn the unit off.
Yes
No
Failure analysis for the drive system => DR1
Is the panel arbitrary turned on or off repeatedly? Or do luminescent spots appear on the screen?
Yes
Failure analysis for the POWER SUPPLY Unit => PS3
In a case where luminescent spots appear or the panel is repeatedly turned on or off
No
Yes
Failure analysis for the drive system => DR2
In a case where luminescent spots appear
Is there any local abnormality on the screen?
Yes
Is the abnormality associated with one ADDRESS or one TCP?
No
Is the abnormality associated with a single scan line?
No
Replace the panel chassis.
No
Yes
Yes
Failure analysis for the drive system => DR3
Failure analysis for the drive system => DR4
Ⓐ


Ⓐ
In the subsequent diagnostic steps, it is most likely that the multi base section is in failure.
Problems concerning video display
Is the panel mask properly displayed?
No
Is it return to properly indication when a command (PMTS00) is issued?
No
Failure analysis for the drive system => DR2
Yes
No
Failure analysis for the MAIN Assy => MA4
A main microcomputer may stop in the state that it hung a panel mute due to something.
Check with the animated slanting ramp mask.
Is the on-screen display (OSD) properly displayed?
No
Failure analysis for the DIGITAL Assy => DG1
Yes
Check on the Factory menu.
Is an external video signal displayed properly?
No
Failure analysis for the MAIN Assy => MA3
Yes
Problems concerning the audio output
Is the audio signal output?
No
Failure analysis for the audio system => AU1
Yes
Specific failure whose cause is difficult to identify in the initial stage

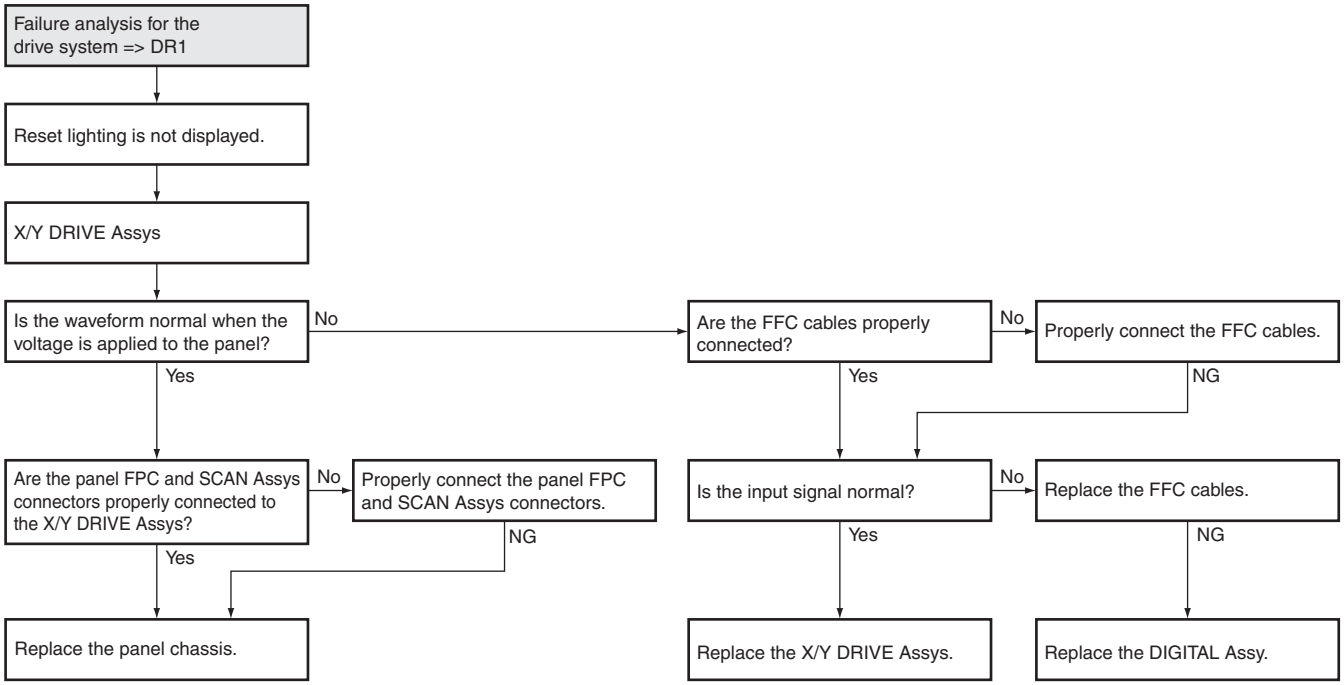
## 5.2.2 POWER SUPPLY UNIT

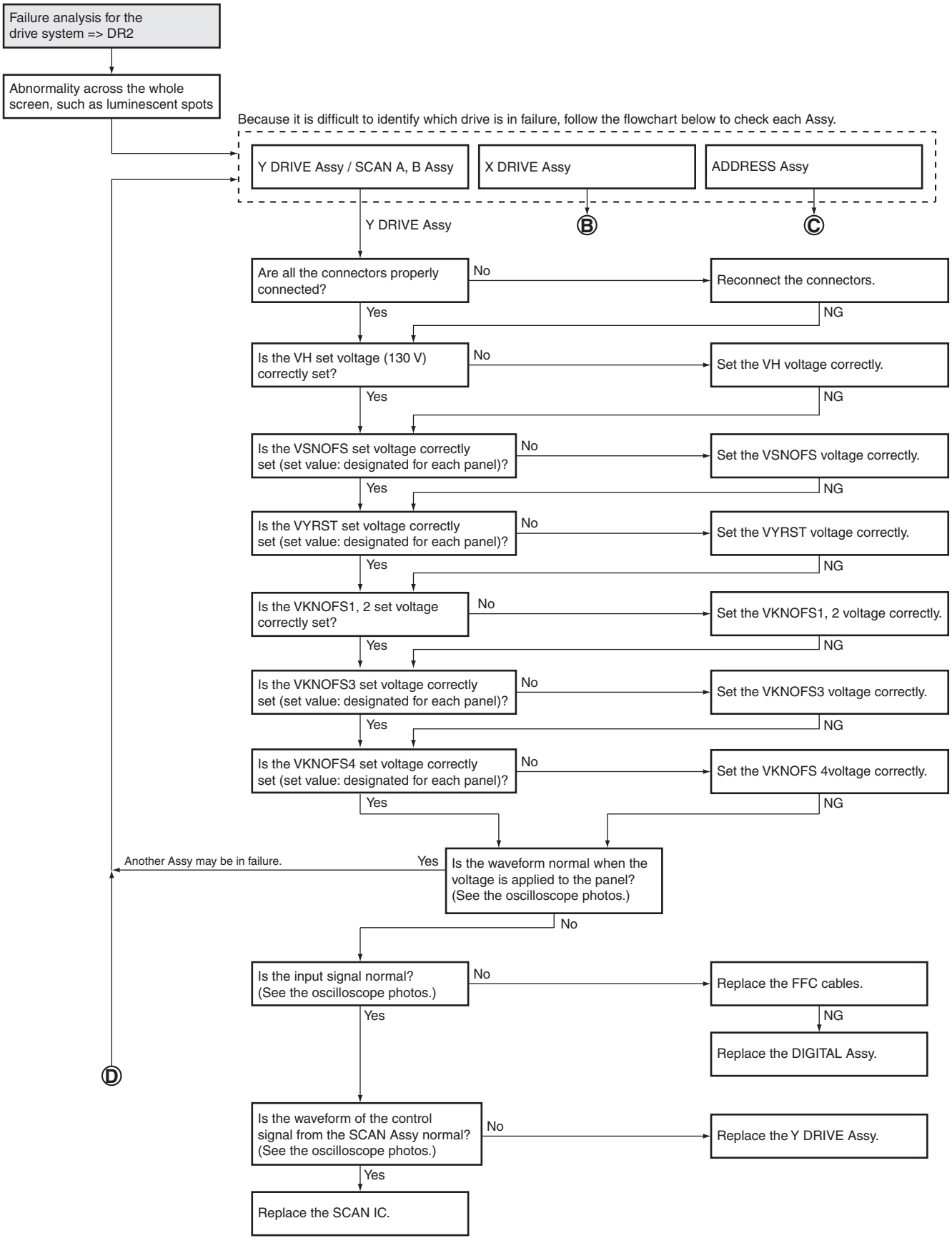
### Flowchart of Failure Analysis for The POWER SUPPLY Unit

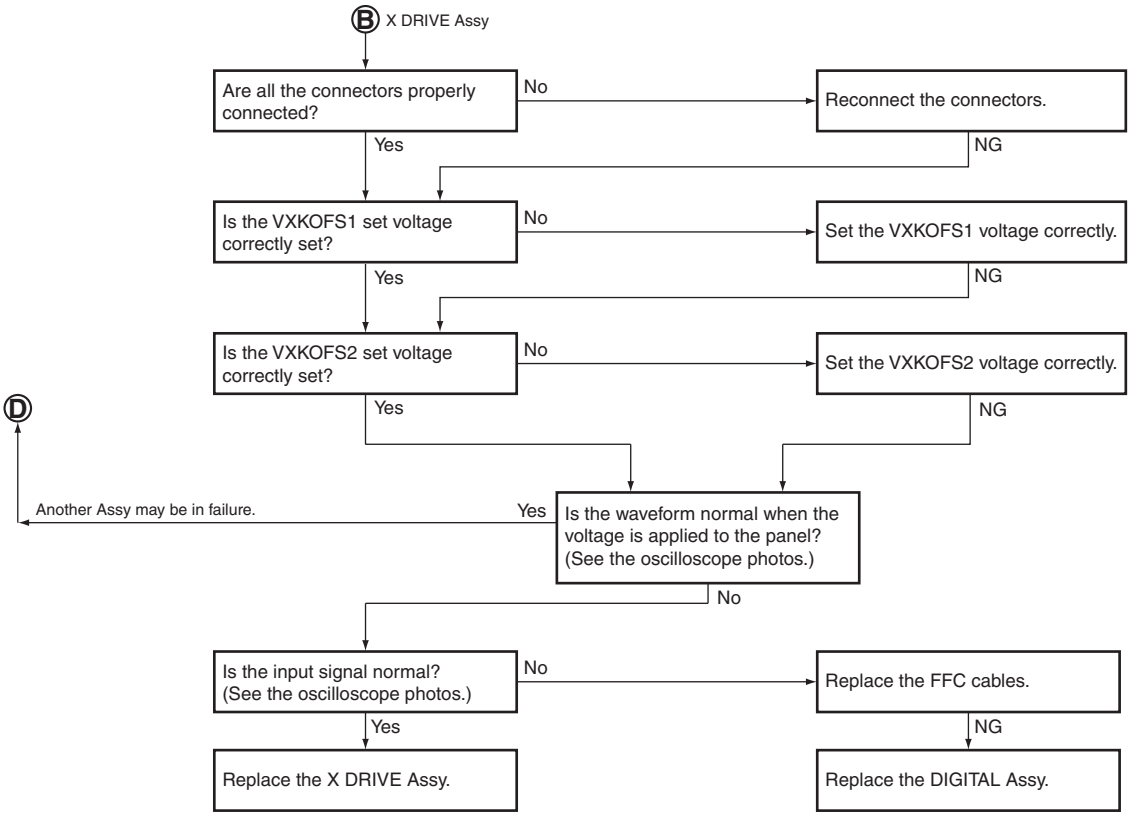

Failure analysis for the POWER SUPPLY Unit => PS1
STB 3.3 V power is not output.
Is the cable connected firmly to the P8 connector?
No
Properly connect the cable between the P8 and M3 connectors.
Yes
Is the cable to the P8 connector broken?
Yes
Replace the defective cable (J106).
Check the voltage at the DIGITAL Assy and POWER SUPPLY Unit.
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R104/R105) blown?
Yes
Replace the POWER SUPPLY Unit.
Check the resistance between L102 (lead nearest R104) and the D121 anode, using a tester.
No
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit => PS2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
• Check the relay operation at the terminal (Pin 11 of P4). (Voltage: 3.3 V)
• Check the relay sound (click).
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
• Check the voltage between the D204 cathode and RC101 (negative) terminal.
• The voltage must be around 390 V (failure if it is 340 V or less).
Caution: High voltage!
Yes
The POWER SUPPLY Unit is normal.
Failure analysis for the POWER SUPPLY Unit => PS3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 57 and 63 V.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 5 V.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
The specified voltage values are between 200 and 210 V (VSU: 125/35°C).
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
The ripple must be within 10 V.
No
The POWER SUPPLY Unit is normal.

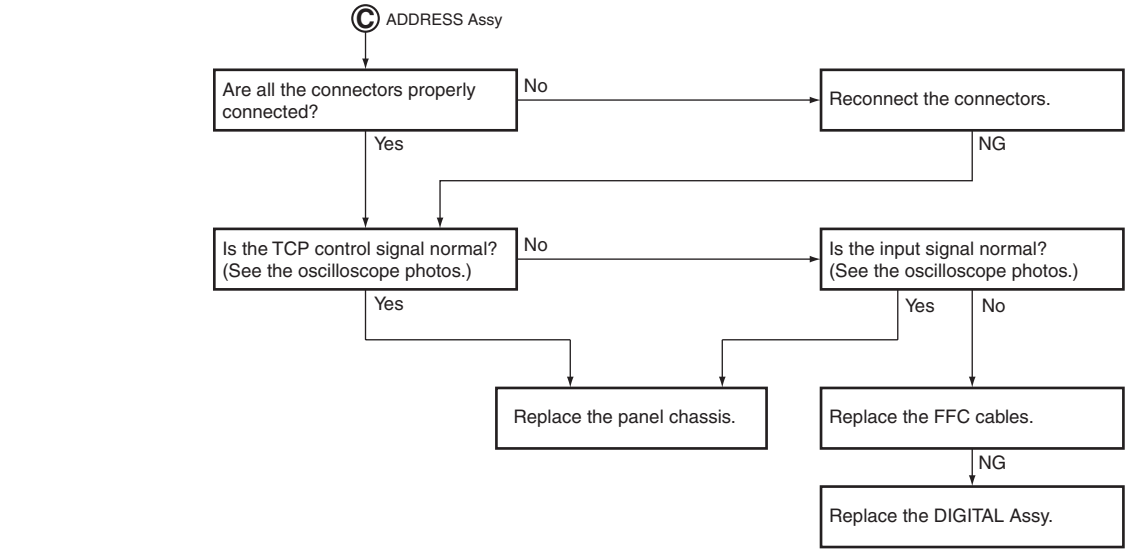
## 5.2.3 DRIVE ASSY

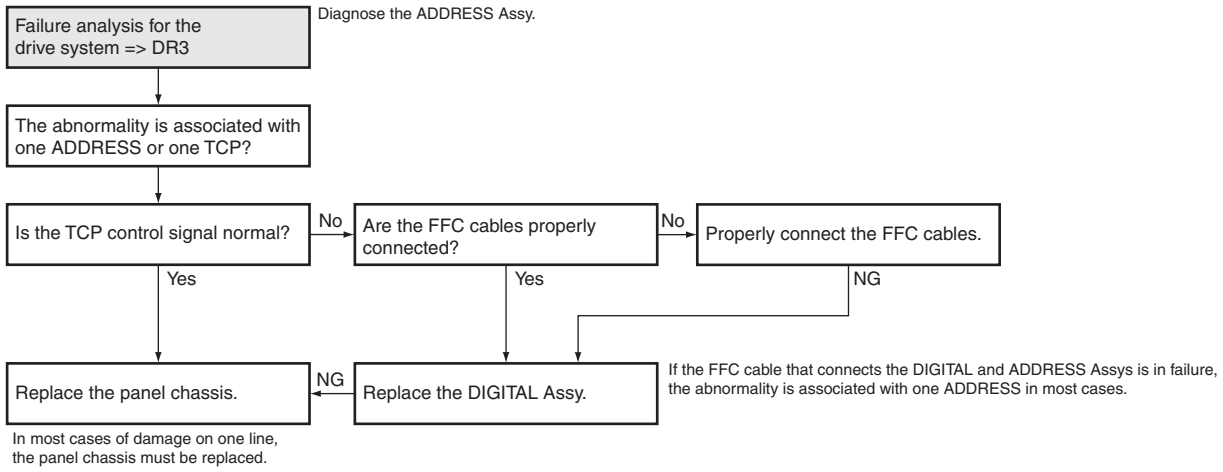
### Flowchart of Failure Analysis for The Drive Assy

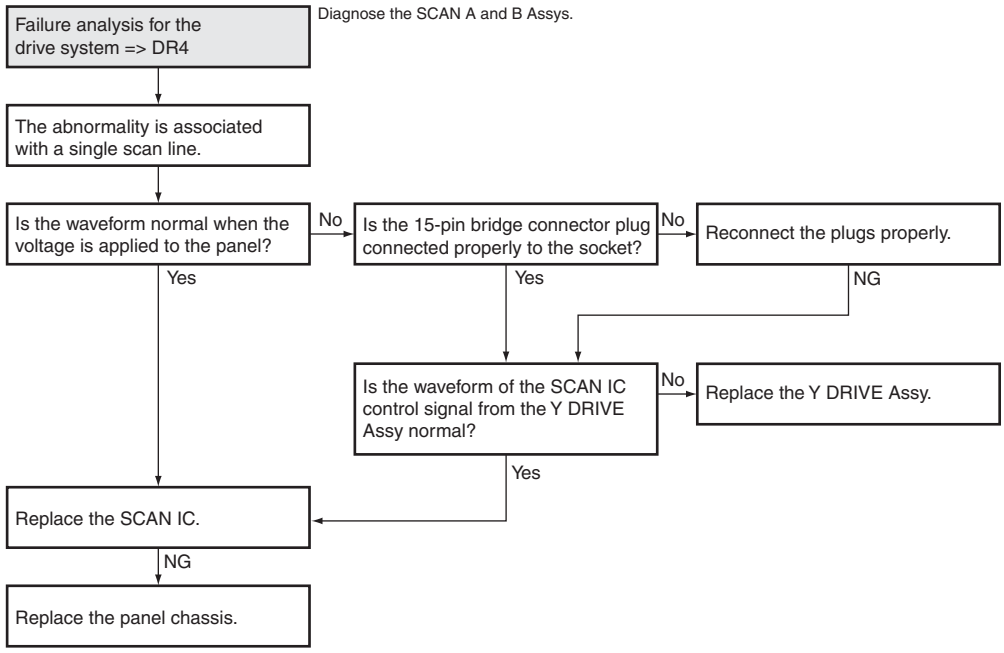

Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Yes
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
NG
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
NG
Yes
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the panel chassis.
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR2
Abnormality across the whole screen, such as luminescent spots
Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.
Y DRIVE Assy / SCAN A, B Assy
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
Ⓑ
Ⓒ
Are all the connectors properly connected?
No
Reconnect the connectors.
NG
Yes
Is the VH set voltage (130 V) correctly set?
No
Set the VH voltage correctly.
NG
Yes
Is the VSNOFS set voltage correctly set (set value: designated for each panel)?
No
Set the VSNOFS voltage correctly.
NG
Yes
Is the VYRST set voltage correctly set (set value: designated for each panel)?
No
Set the VYRST voltage correctly.
NG
Yes
Is the VKNOFS1, 2 set voltage correctly set?
No
Set the VKNOFS1, 2 voltage correctly.
NG
Yes
Is the VKNOFS3 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS3 voltage correctly.
NG
Yes
Is the VKNOFS4 set voltage correctly set (set value: designated for each panel)?
No
Set the VKNOFS 4voltage correctly.
NG
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
Yes
Another Assy may be in failure.
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Ⓓ
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.


Ⓑ X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the VXKOFS1 set voltage correctly set?
No
Set the VXKOFS1 voltage correctly.
Yes
NG
Is the VXKOFS2 set voltage correctly set?
No
Set the VXKOFS2 voltage correctly.
Yes
NG
Ⓓ
Another Assy may be in failure.
Yes
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
Yes
NG
Replace the X DRIVE Assy.
Replace the DIGITAL Assy.

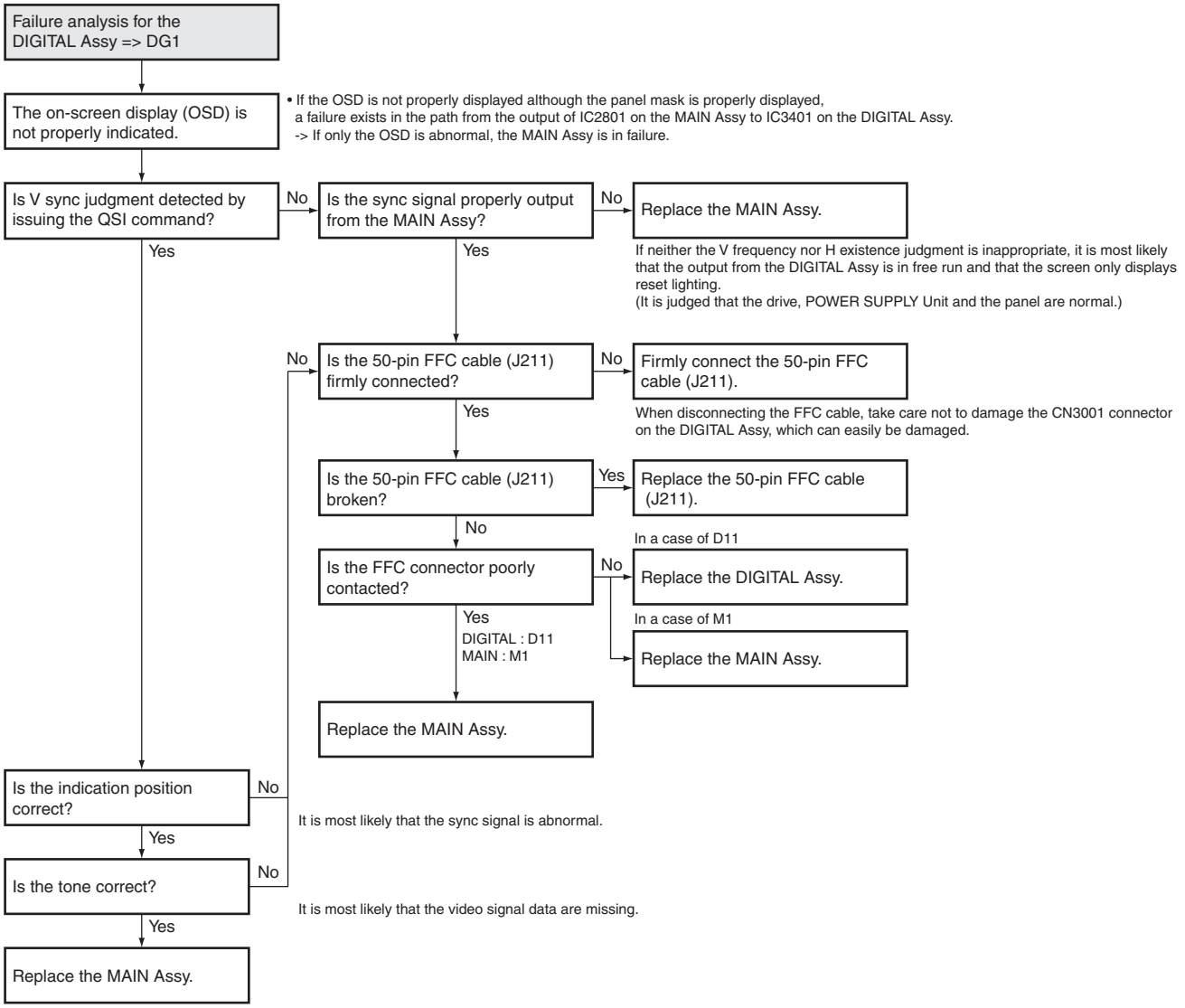

Ⓒ ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
NG
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the panel chassis.
Replace the FFC cables.
NG
Replace the DIGITAL Assy.


Failure analysis for the drive system => DR3
Diagnose the ADDRESS Assy.
The abnormality is associated with one ADDRESS or one TCP?
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.
If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one ADDRESS in most cases.
In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
Diagnose the SCAN A and B Assys.
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel?
No
Is the 15-pin bridge connector plug connected properly to the socket?
No
Reconnect the plugs properly.
Yes
Yes
NG
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

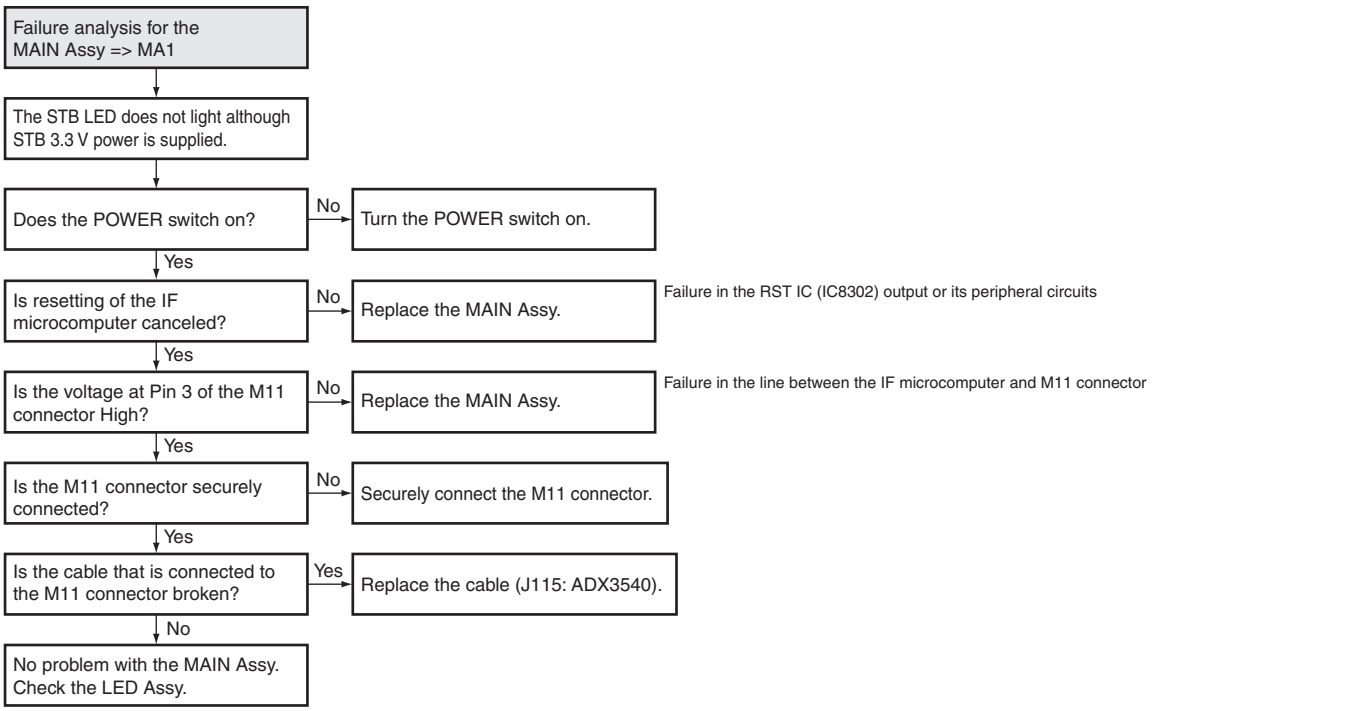
# 5.2.4 DIGITAL ASSY

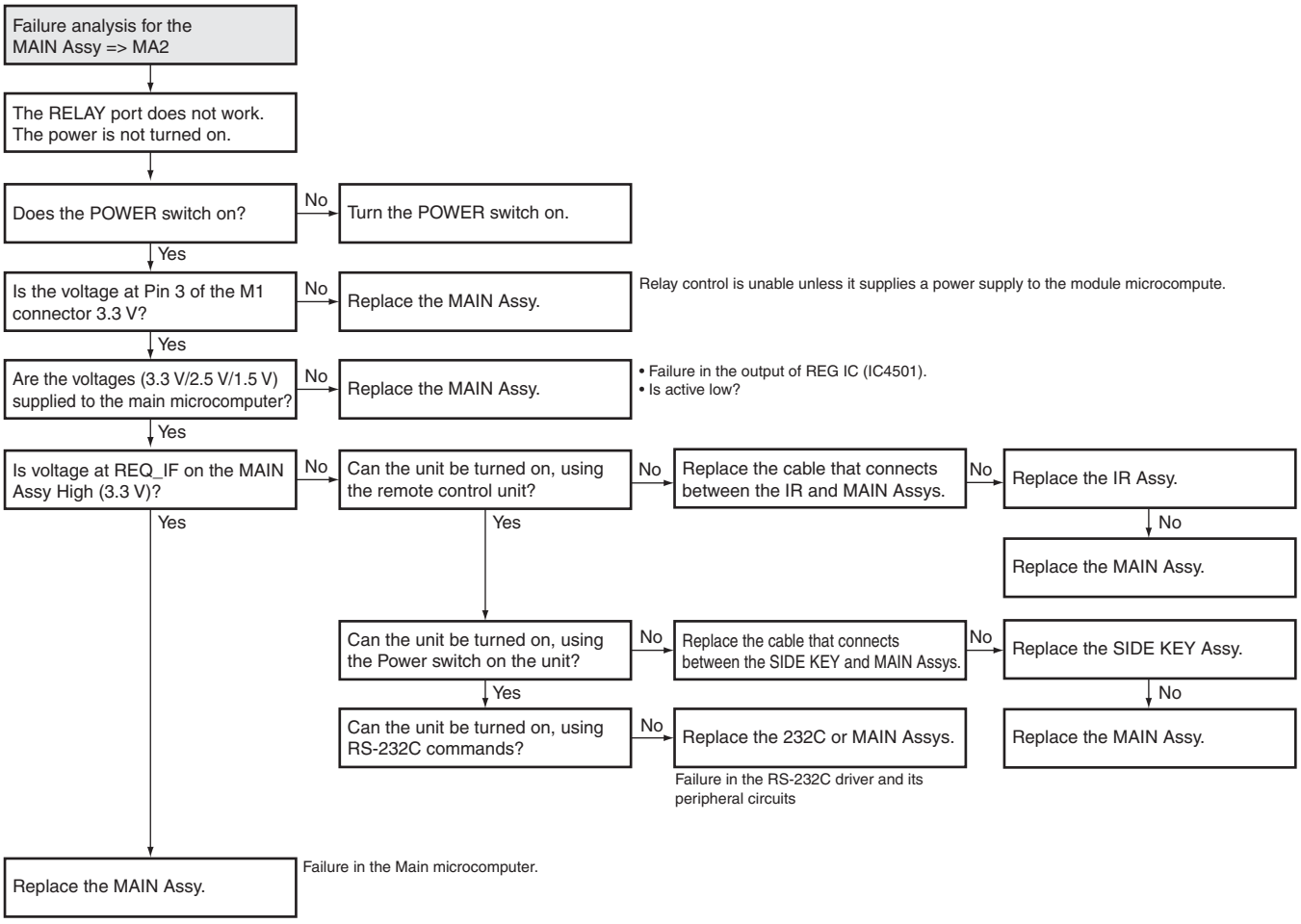
## Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
• If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC2801 on the MAIN Assy to IC3401 on the DIGITAL Assy.
-> If only the OSD is abnormal, the MAIN Assy is in failure.
Is V sync judgment detected by issuing the QSI command?
No
Is the sync signal properly output from the MAIN Assy?
No
Replace the MAIN Assy.
Yes
Yes
If neither the V frequency nor H existence judgment is inappropriate, it is most likely that the output from the DIGITAL Assy is in free run and that the screen only displays reset lighting.
(It is judged that the drive, POWER SUPPLY Unit and the panel are normal.)
No
Is the 50-pin FFC cable (J211) firmly connected?
No
Firmly connect the 50-pin FFC cable (J211).
Yes
When disconnecting the FFC cable, take care not to damage the CN3001 connector on the DIGITAL Assy, which can easily be damaged.
Is the 50-pin FFC cable (J211) broken?
Yes
Replace the 50-pin FFC cable (J211).
No
In a case of D11
Is the FFC connector poorly contacted?
No
Replace the DIGITAL Assy.
In a case of M1
Yes
DIGITAL : D11
MAIN : M1
Replace the MAIN Assy.
Replace the MAIN Assy.
Is the indication position correct?
No
It is most likely that the sync signal is abnormal.
Yes
Is the tone correct?
No
It is most likely that the video signal data are missing.
Yes
Replace the MAIN Assy.

## 5.2.5 MAIN ASSY

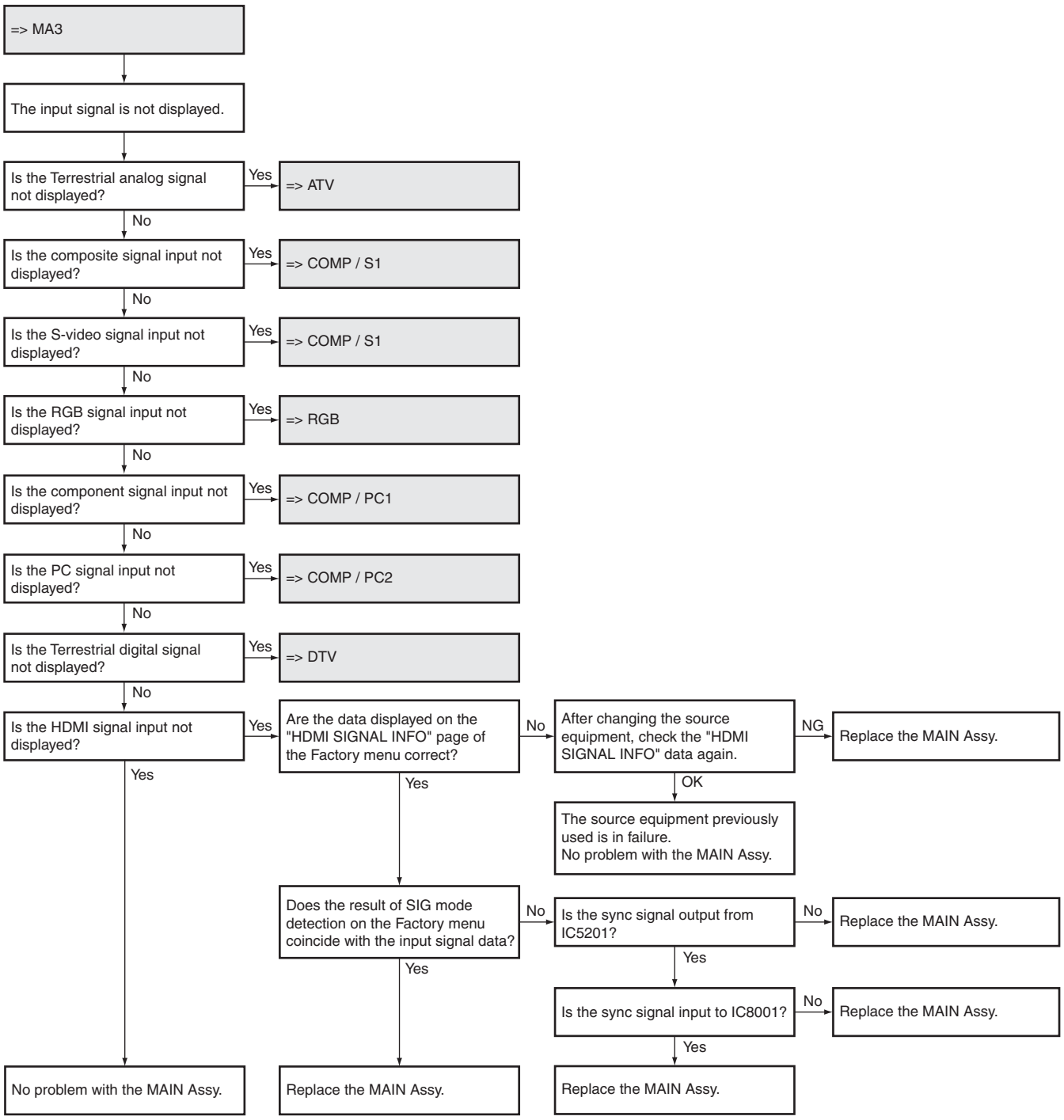
### Flowchart of Failure Analysis for The MAIN Assy


Failure analysis for the MAIN Assy => MA1
The STB LED does not light although STB 3.3 V power is supplied.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the IF microcomputer canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC8302) output or its peripheral circuits
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Failure in the line between the IF microcomputer and M11 connector
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J115: ADX3540).
No
No problem with the MAIN Assy. Check the LED Assy.

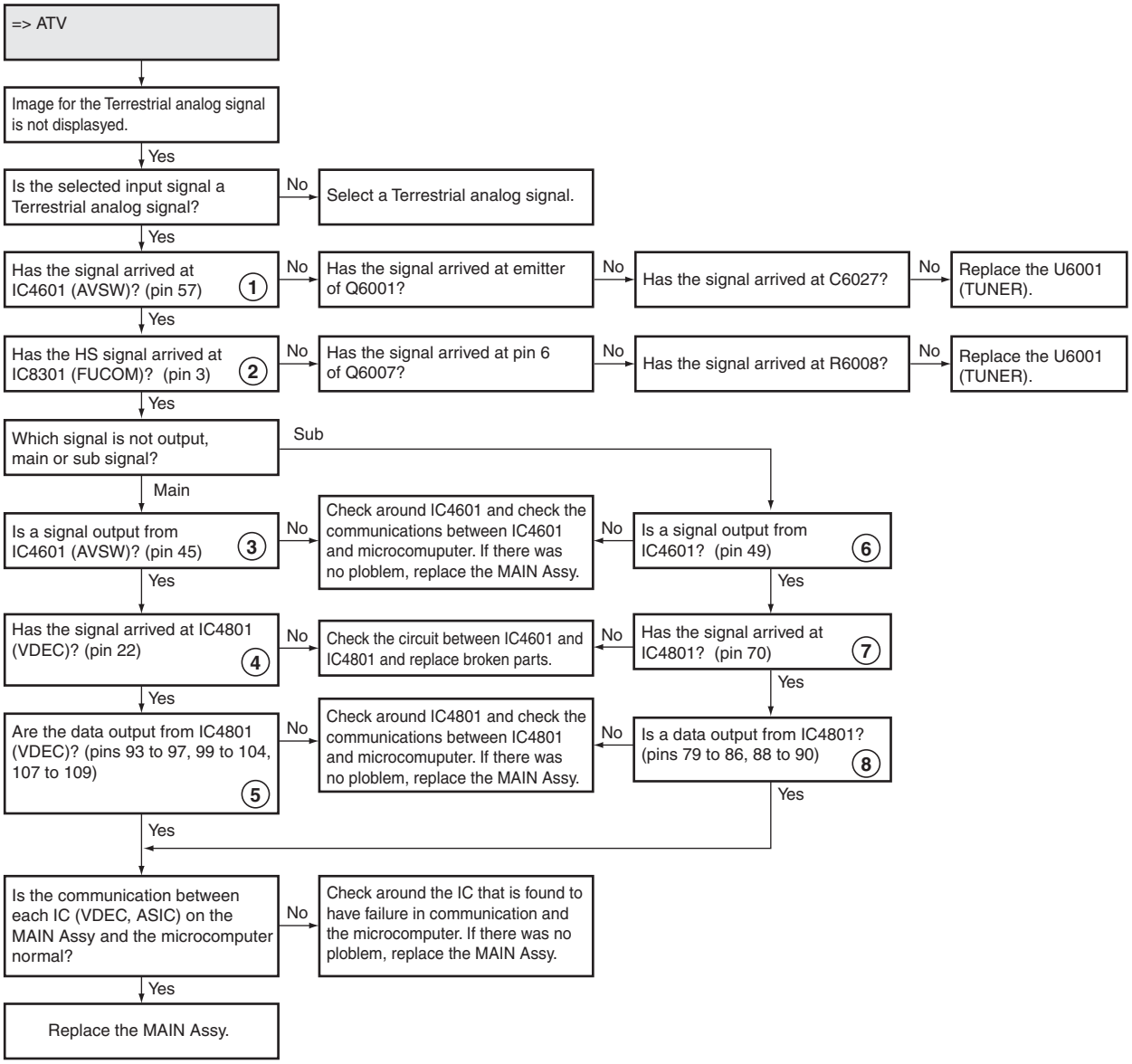

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is the voltage at Pin 3 of the M1 connector 3.3 V?
No
Replace the MAIN Assy.
Relay control is unable unless it supplies a power supply to the module microcompute.
Yes
Are the voltages (3.3 V/2.5 V/1.5 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
• Failure in the output of REG IC (IC4501).
• Is active low?
Yes
Is voltage at REQ_IF on the MAIN Assy High (3.3 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the cable that connects between the IR and MAIN Assys.
No
Replace the IR Assy.
No
Replace the MAIN Assy.
Yes
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable that connects between the SIDE KEY and MAIN Assys.
No
Replace the SIDE KEY Assy.
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 232C or MAIN Assys.
Failure in the RS-232C driver and its peripheral circuits
Yes
Replace the MAIN Assy.
Failure in the Main microcomputer.

## 5.2.6 VIDEO SYSTEM

### Flowchart of Failure Analysis for The Video System

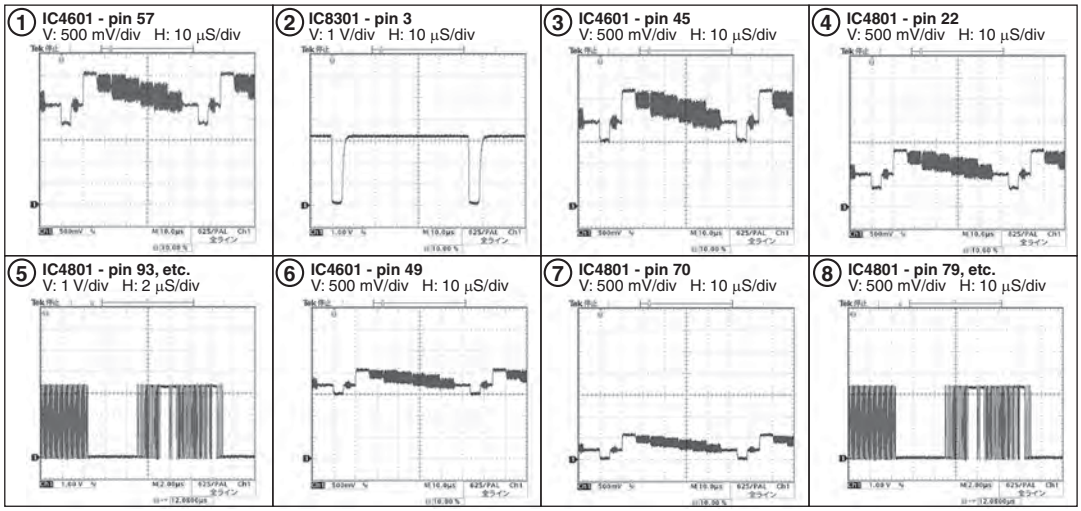


## Flowchart of Failure Analysis for The Video System

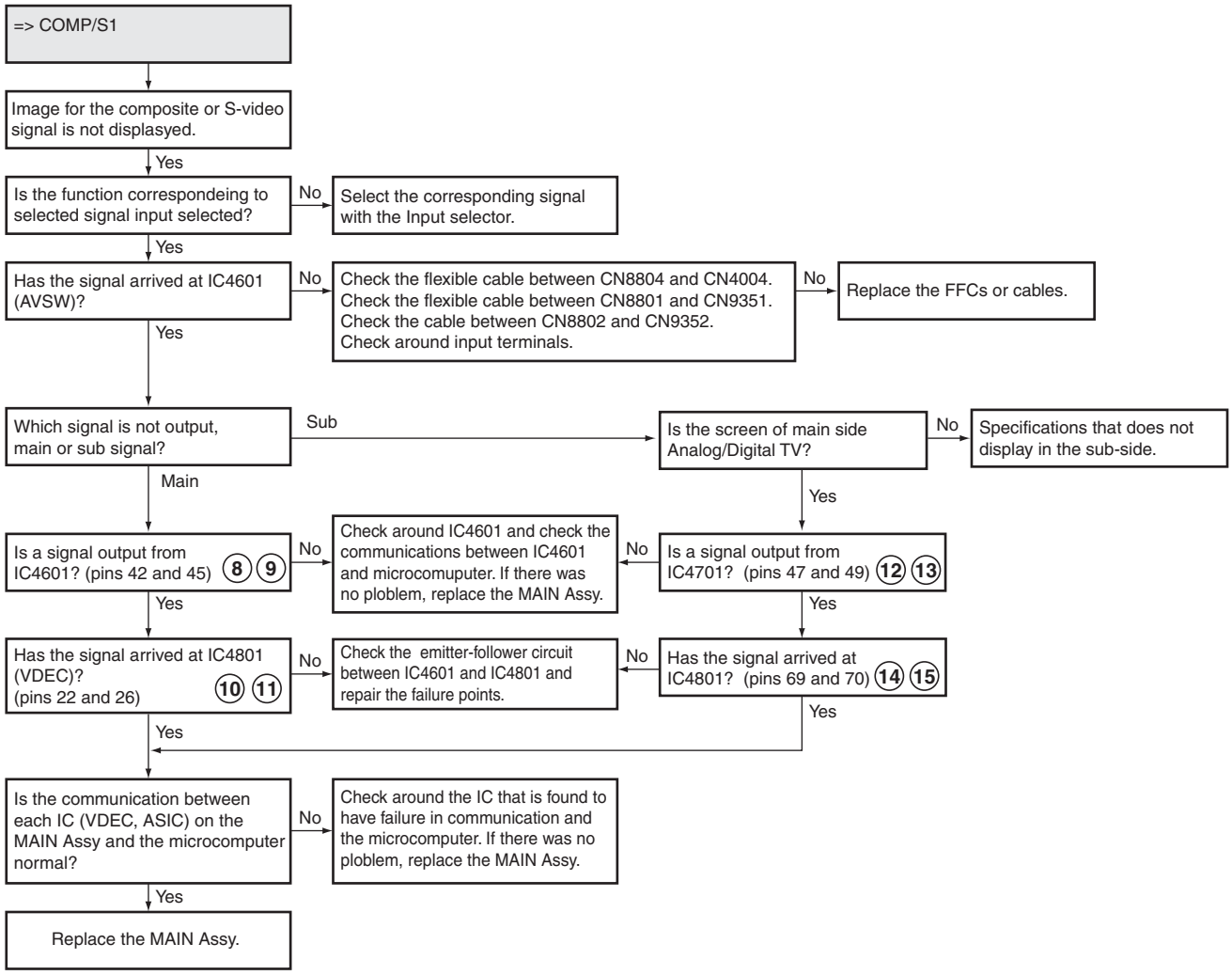

=> ATV
Image for the Terrestrial analog signal is not displasyed.
Yes
Is the selected input signal a Terrestrial analog signal?
No
Select a Terrestrial analog signal.
Yes
Has the signal arrived at IC4601 (AVSW)? (pin 57) 1
No
Has the signal arrived at emitter of Q6001?
No
Has the signal arrived at C6027?
No
Replace the U6001 (TUNER).
Yes
Has the HS signal arrived at IC8301 (FUCOM)? (pin 3) 2
No
Has the signal arrived at pin 6 of Q6007?
No
Has the signal arrived at R6008?
No
Replace the U6001 (TUNER).
Yes
Which signal is not output, main or sub signal?
Sub
Main
Is a signal output from IC4601 (AVSW)? (pin 45) 3
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4601? (pin 49) 6
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pin 22) 4
No
Check the circuit between IC4601 and IC4801 and replace broken parts.
No
Has the signal arrived at IC4801? (pin 70) 7
Yes
Yes
Are the data output from IC4801 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) 5
No
Check around IC4801 and check the communications between IC4801 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a data output from IC4801? (pins 79 to 86, 88 to 90) 8
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

### ● Waveforms

Input signal: PAL Color-bar (Analog tuner)

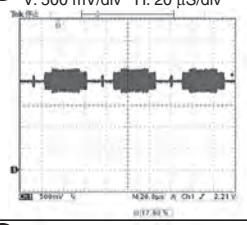
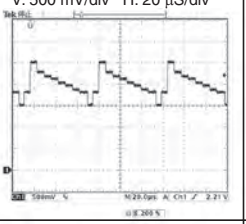
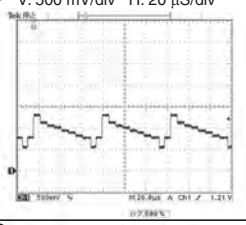
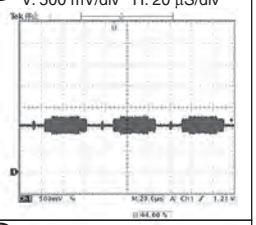
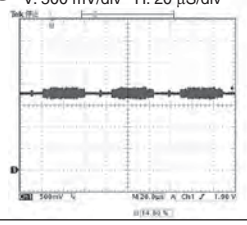
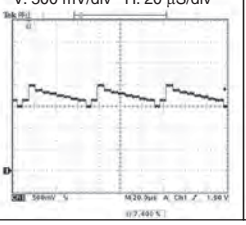
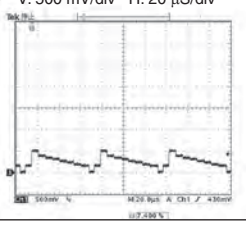
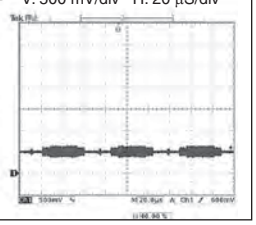

1 IC4601 - pin 57
V: 500 mV/div H: 10 µS/div
2 IC8301 - pin 3
V: 1 V/div H: 10 µS/div
3 IC4601 - pin 45
V: 500 mV/div H: 10 µS/div
4 IC4801 - pin 22
V: 500 mV/div H: 10 µS/div
5 IC4801 - pin 93, etc.
V: 1 V/div H: 2 µS/div
6 IC4601 - pin 49
V: 500 mV/div H: 10 µS/div
7 IC4801 - pin 70
V: 500 mV/div H: 10 µS/div
8 IC4801 - pin 79, etc.
V: 500 mV/div H: 10 µS/div

## Flowchart of Failure Analysis for The Video System

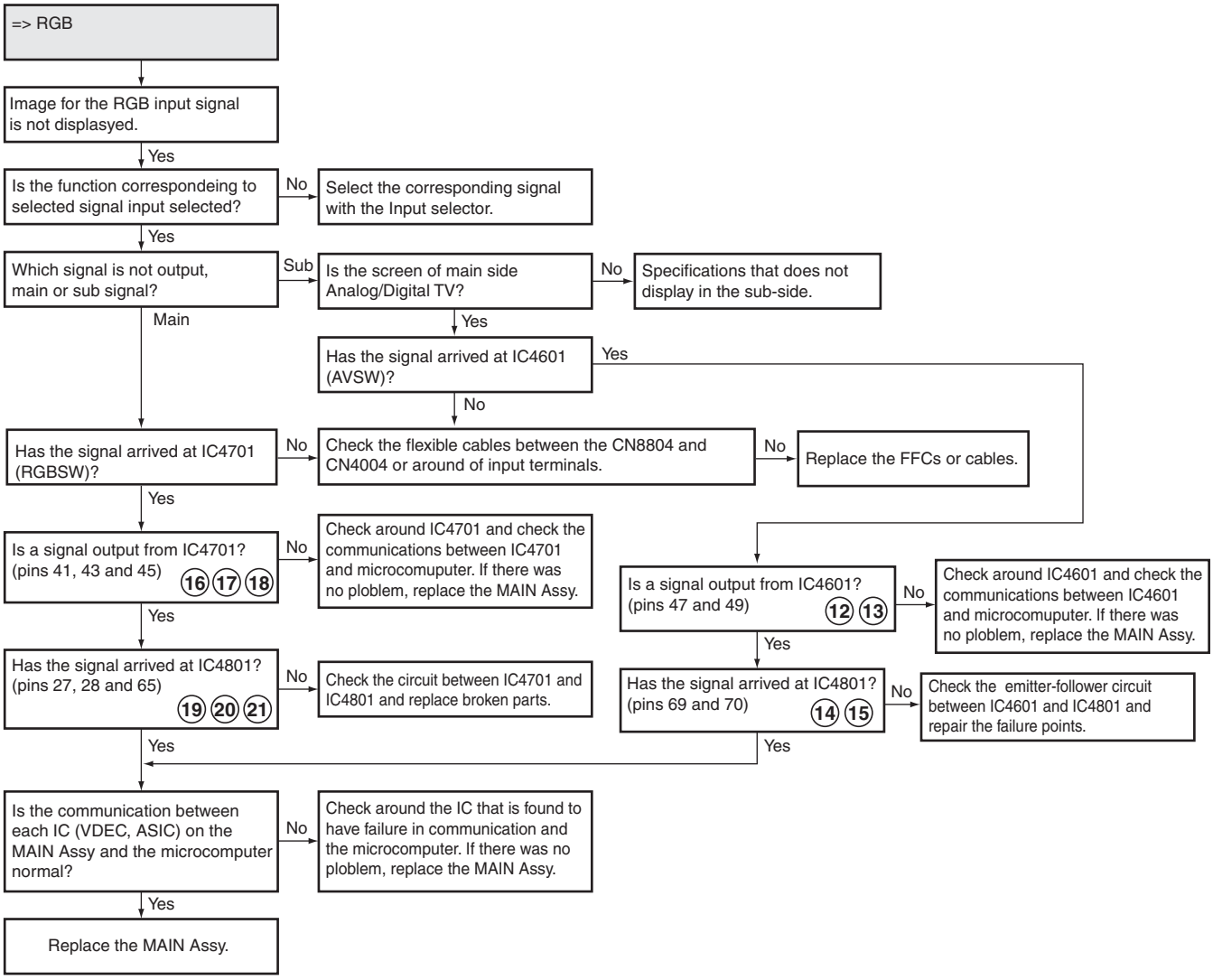

=> COMP/S1
Image for the composite or S-video signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC4601 (AVSW)?
No
Check the flexible cable between CN8804 and CN4004.
Check the flexible cable between CN8801 and CN9351.
Check the cable between CN8802 and CN9352.
Check around input terminals.
No
Replace the FFCs or cables.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Yes
Main
Is a signal output from IC4601? (pins 42 and 45) 8 9
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
No
Is a signal output from IC4701? (pins 47 and 49) 12 13
Yes
Yes
Has the signal arrived at IC4801 (VDEC)? (pins 22 and 26) 10 11
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
No
Has the signal arrived at IC4801? (pins 69 and 70) 14 15
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

### ● Waveforms

Input signal: PAL Color-bar (S terminal)

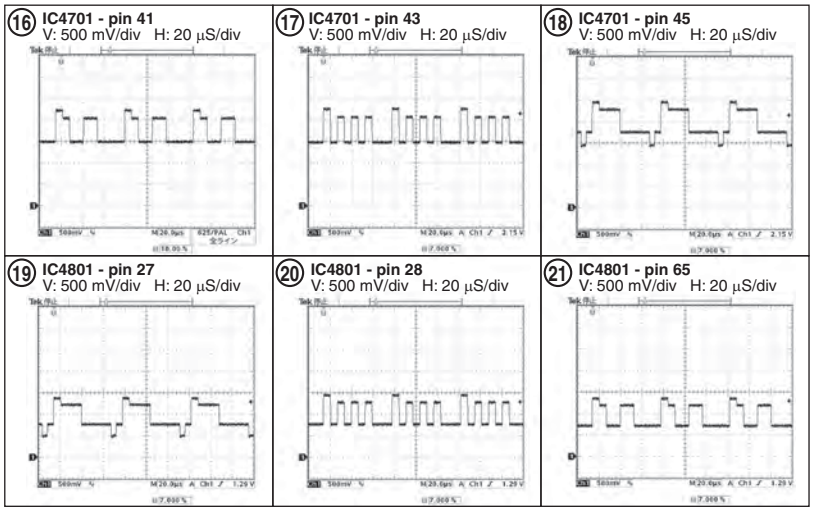
| | | | |
|---|---|---|---|
| **8 IC4601 - pin 42** V: 500 mV/div H: 20 µS/div | **9 IC4601 - pin 45** V: 500 mV/div H: 20 µS/div | **10 IC4801 - pin 22** V: 500 mV/div H: 20 µS/div | **11 IC4801 - pin 26** V: 500 mV/div H: 20 µS/div |
|  |  |  |  |
| **12 IC4701 - pin 47** V: 500 mV/div H: 20 µS/div | **13 IC4701 - pin 49** V: 500 mV/div H: 20 µS/div | **14 IC4801 - pin 69** V: 500 mV/div H: 20 µS/div | **15 IC4801 - pin 70** V: 500 mV/div H: 20 µS/div |
|  |  |  |  |

## Flowchart of Failure Analysis for The Video System

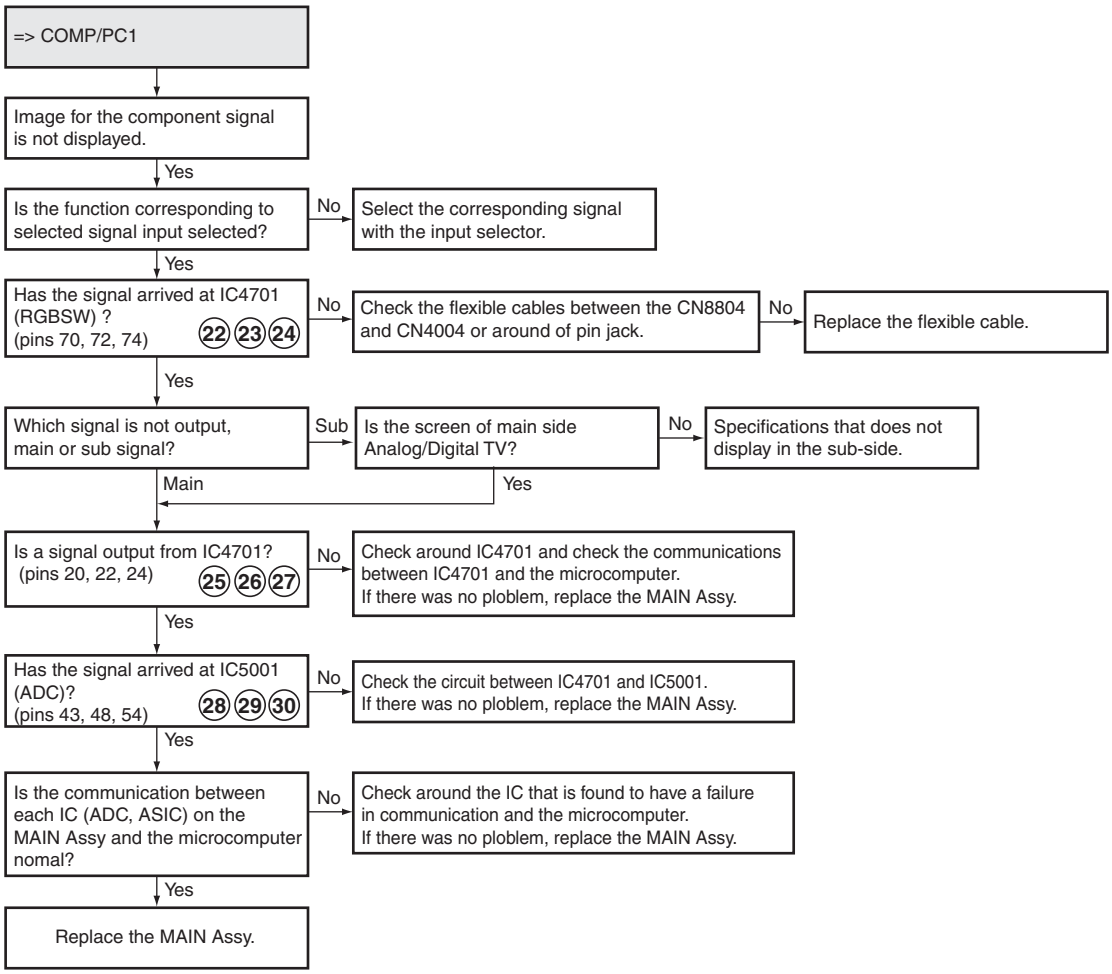

=> RGB
Image for the RGB input signal is not displasyed.
Yes
Is the function correspondeing to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Has the signal arrived at IC4601 (AVSW)?
Yes
No
Has the signal arrived at IC4701 (RGBSW)?
No
Check the flexible cables between the CN8804 and CN4004 or around of input terminals.
No
Replace the FFCs or cables.
Yes
Is a signal output from IC4701? (pins 41, 43 and 45) 16 17 18
No
Check around IC4701 and check the communications between IC4701 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Is a signal output from IC4601? (pins 47 and 49) 12 13
No
Check around IC4601 and check the communications between IC4601 and microcomuputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC4801? (pins 27, 28 and 65) 19 20 21
No
Check the circuit between IC4701 and IC4801 and replace broken parts.
Has the signal arrived at IC4801? (pins 69 and 70) 14 15
No
Check the emitter-follower circuit between IC4601 and IC4801 and repair the failure points.
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

### ● Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)

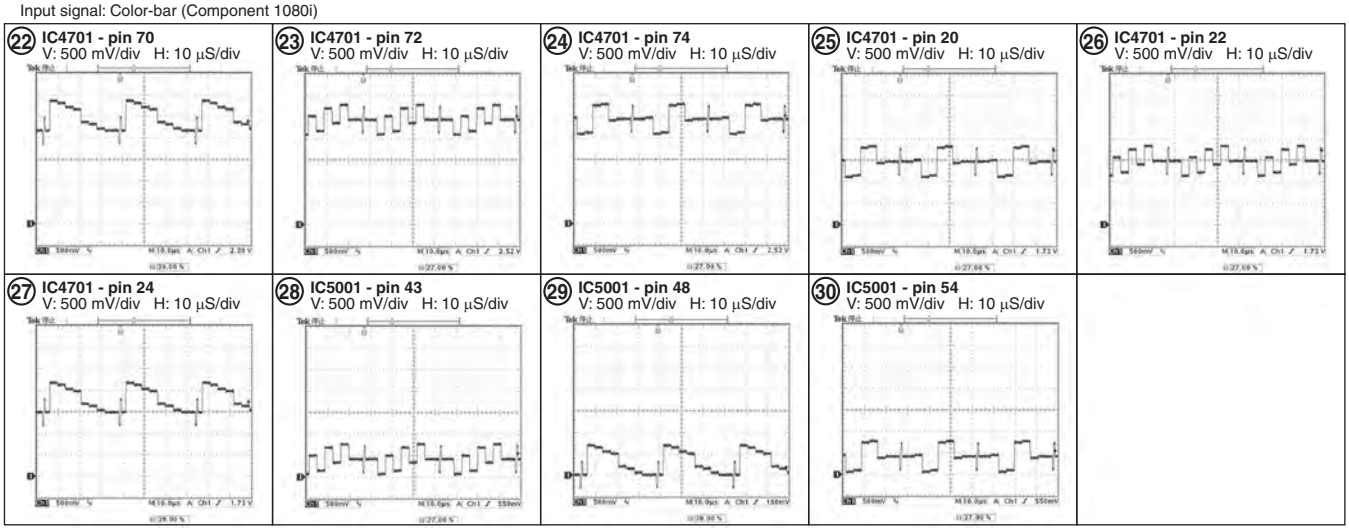

16 IC4701 - pin 41
V: 500 mV/div H: 20 µS/div
17 IC4701 - pin 43
V: 500 mV/div H: 20 µS/div
18 IC4701 - pin 45
V: 500 mV/div H: 20 µS/div
19 IC4801 - pin 27
V: 500 mV/div H: 20 µS/div
20 IC4801 - pin 28
V: 500 mV/div H: 20 µS/div
21 IC4801 - pin 65
V: 500 mV/div H: 20 µS/div

## Flowchart of Failure Analysis for The Video System

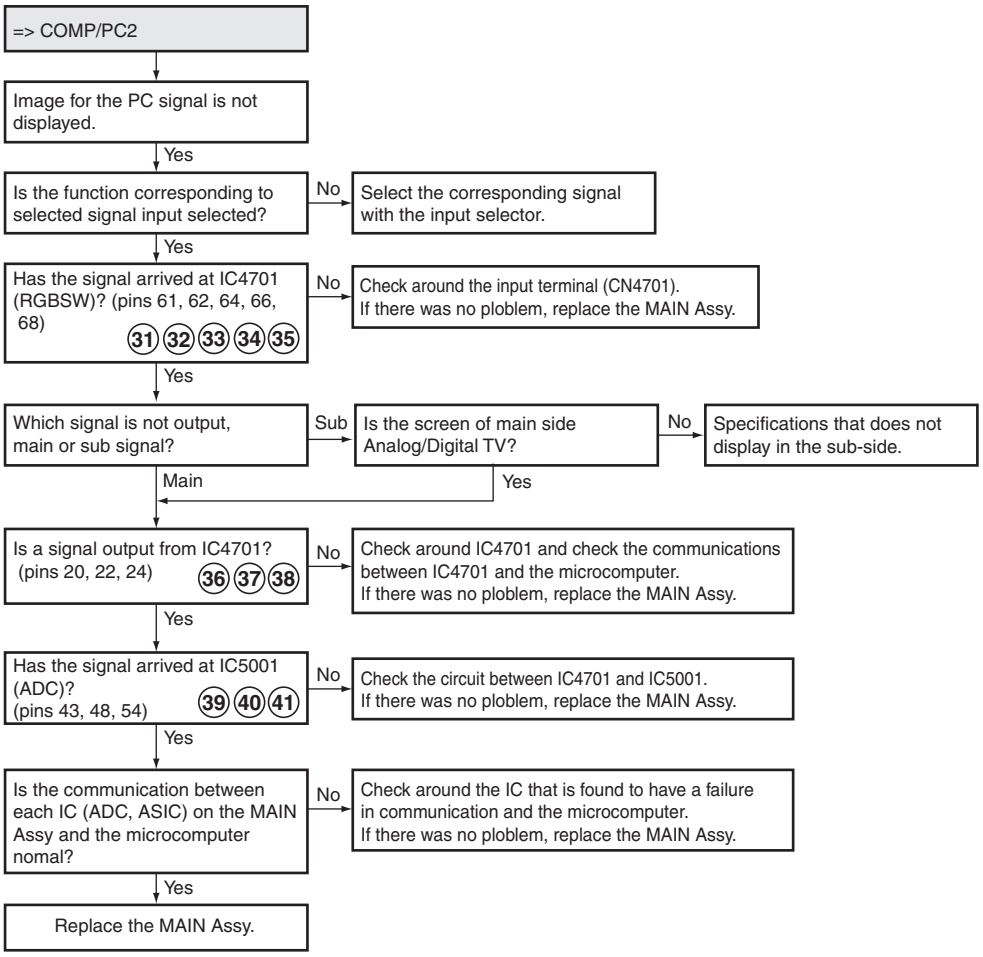

=> COMP/PC1
Image for the component signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW) ? (pins 70, 72, 74) 22 23 24
No
Check the flexible cables between the CN8804 and CN4004 or around of pin jack.
No
Replace the flexible cable.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24) 25 26 27
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54) 28 29 30
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

### ● Waveforms

Input signal: Color-bar (Component 1080i)


22 IC4701 - pin 70
V: 500 mV/div H: 10 µS/div
23 IC4701 - pin 72
V: 500 mV/div H: 10 µS/div
24 IC4701 - pin 74
V: 500 mV/div H: 10 µS/div
25 IC4701 - pin 20
V: 500 mV/div H: 10 µS/div
26 IC4701 - pin 22
V: 500 mV/div H: 10 µS/div
27 IC4701 - pin 24
V: 500 mV/div H: 10 µS/div
28 IC5001 - pin 43
V: 500 mV/div H: 10 µS/div
29 IC5001 - pin 48
V: 500 mV/div H: 10 µS/div
30 IC5001 - pin 54
V: 500 mV/div H: 10 µS/div

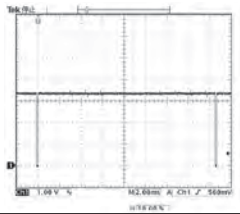
## Flowchart of Failure Analysis for The Video System


=> COMP/PC2
Image for the PC signal is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Has the signal arrived at IC4701 (RGBSW)? (pins 61, 62, 64, 66, 68)
31 32 33 34 35
No
Check around the input terminal (CN4701). If there was no ploblem, replace the MAIN Assy.
Yes
Which signal is not output, main or sub signal?
Sub
Is the screen of main side Analog/Digital TV?
No
Specifications that does not display in the sub-side.
Main
Yes
Is a signal output from IC4701? (pins 20, 22, 24)
36 37 38
No
Check around IC4701 and check the communications between IC4701 and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Has the signal arrived at IC5001 (ADC)? (pins 43, 48, 54)
39 40 41
No
Check the circuit between IC4701 and IC5001. If there was no ploblem, replace the MAIN Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN Assy and the microcomputer nomal?
No
Check around the IC that is found to have a failure in communication and the microcomputer. If there was no ploblem, replace the MAIN Assy.
Yes
Replace the MAIN Assy.

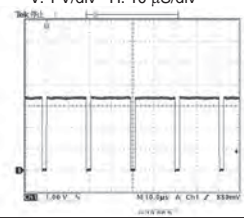
### ● Waveforms

Input signal: Color-bar (PC XGA/60 Hz)

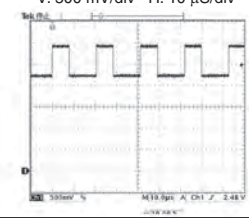
**31 IC4701 - pin 61**
V: 1 V/div H: 2 mS/div



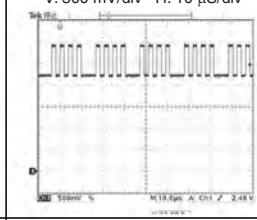
**32 IC4701 - pin 62**
V: 1 V/div H: 10 μS/div



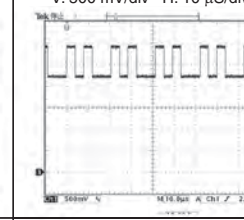
**33 IC4701 - pin 64**
V: 500 mV/div H: 10 μS/div



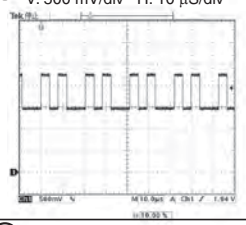
**34 IC4701 - pin 66**
V: 500 mV/div H: 10 μS/div



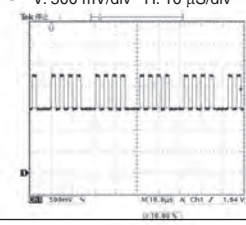
**35 IC4701 - pin 68**
V: 500 mV/div H: 10 μS/div



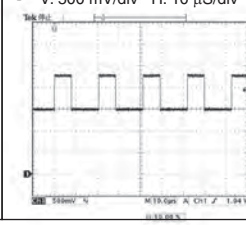
**36 IC4701 - pin 20**
V: 500 mV/div H: 10 μS/div



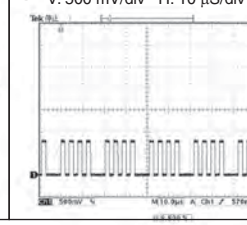
**37 IC4701 - pin 22**
V: 500 mV/div H: 10 μS/div



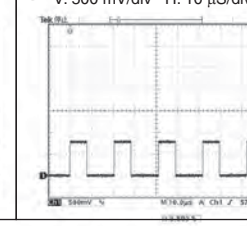
**38 IC4701 - pin 24**
V: 500 mV/div H: 10 μS/div



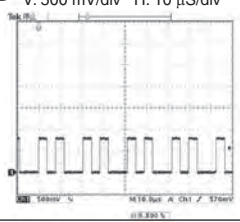
**39 IC5001 - pin 43**
V: 500 mV/div H: 10 μS/div



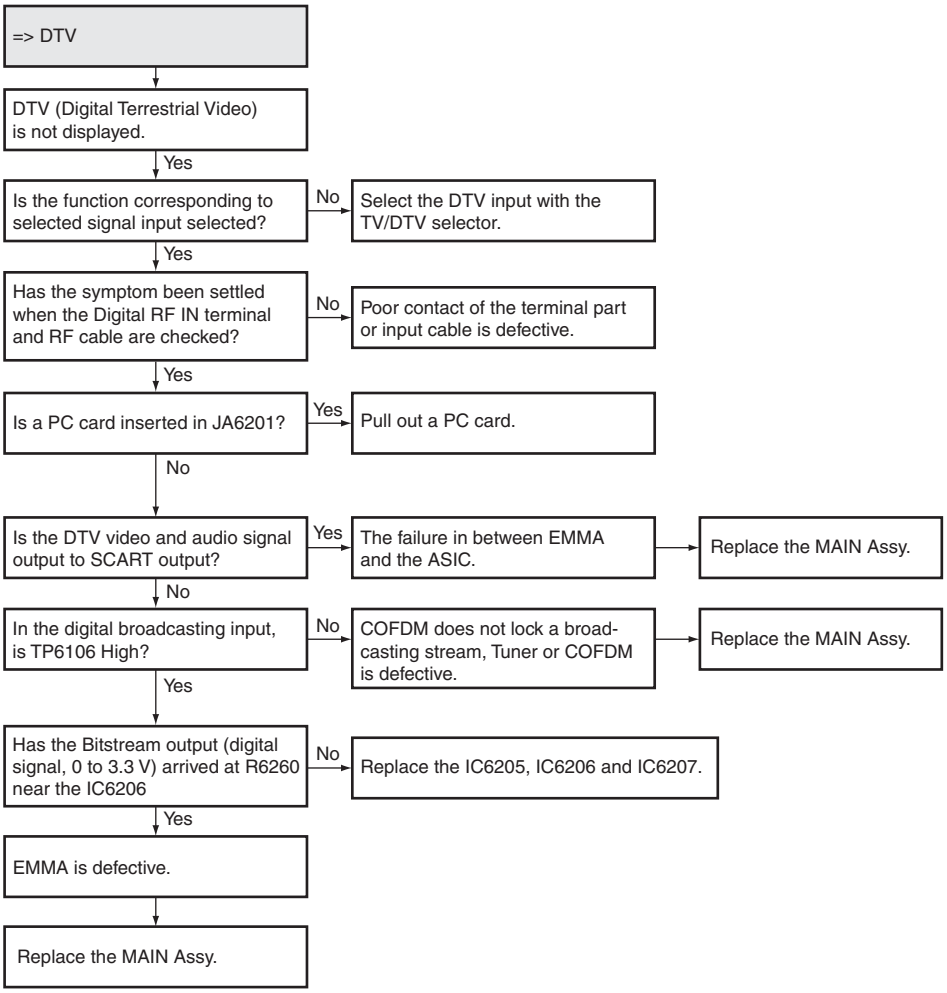
**40 IC5001 - pin 48**
V: 500 mV/div H: 10 μS/div



**41 IC5001 - pin 54**
V: 500 mV/div H: 10 μS/div

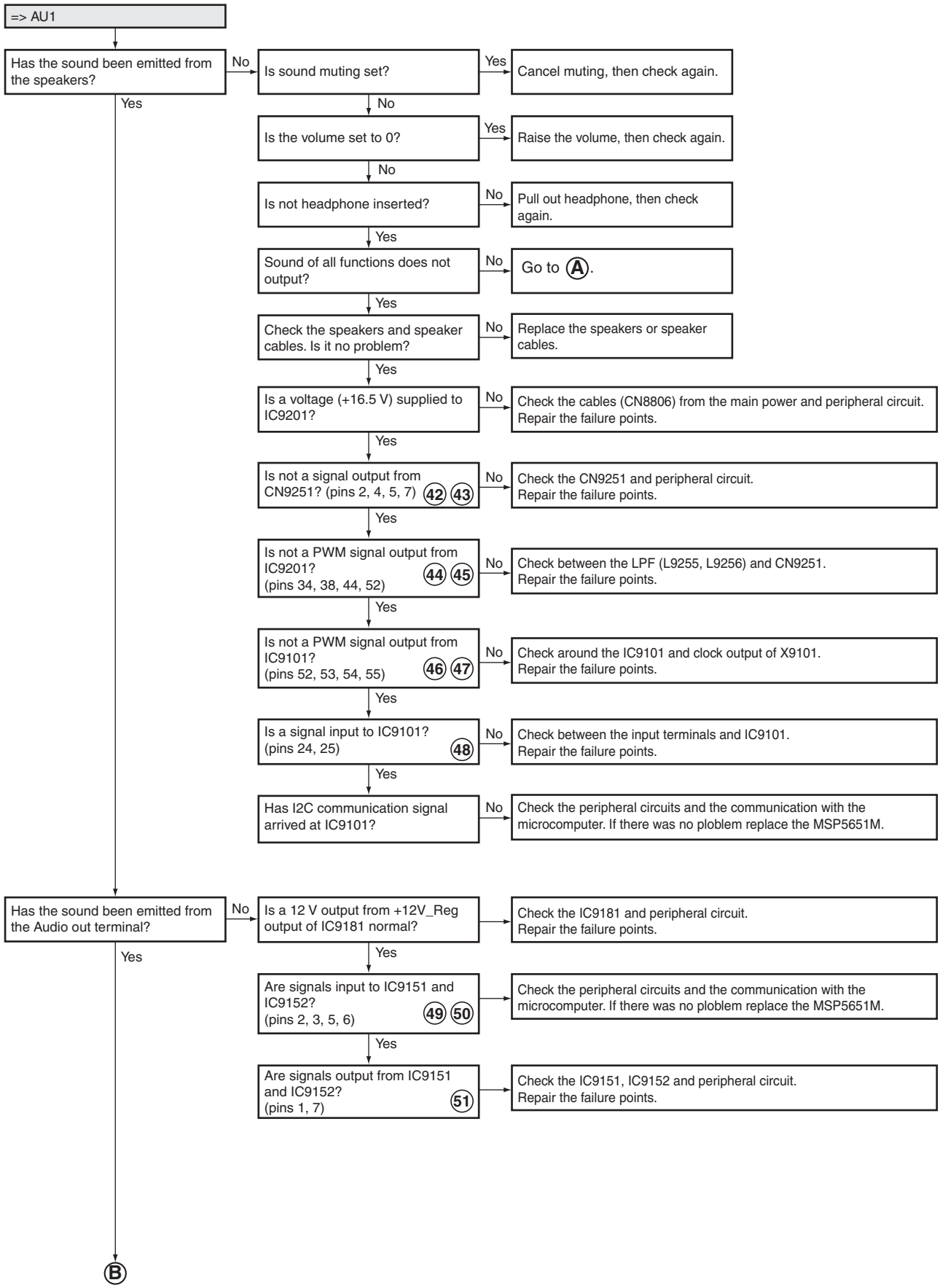


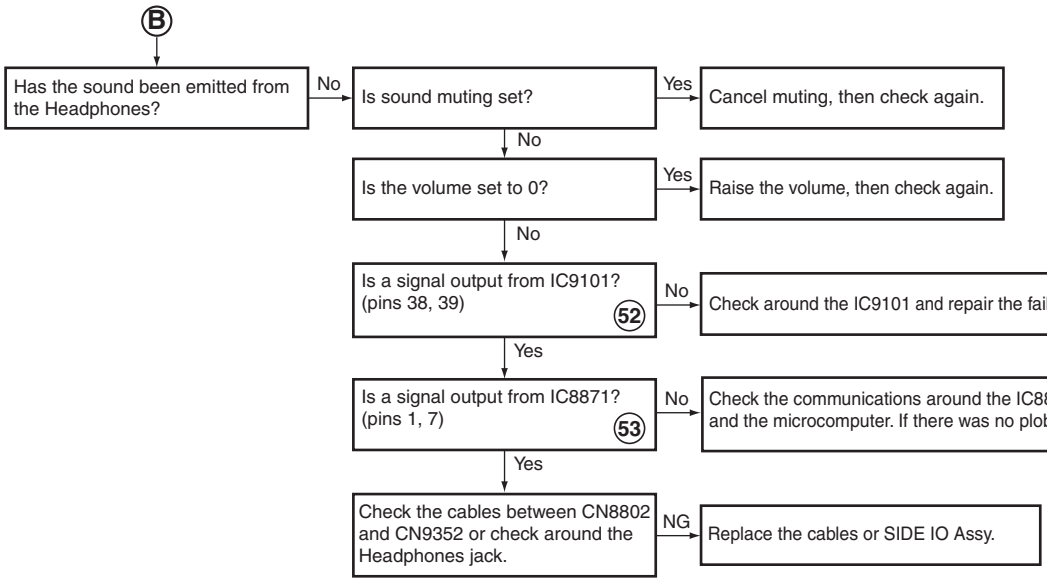
## Flowchart of Failure Analysis for The Video System


=> DTV
DTV (Digital Terrestrial Video) is not displayed.
Yes
Is the function corresponding to selected signal input selected?
No
Select the DTV input with the TV/DTV selector.
Yes
Has the symptom been settled when the Digital RF IN terminal and RF cable are checked?
No
Poor contact of the terminal part or input cable is defective.
Yes
Is a PC card inserted in JA6201?
Yes
Pull out a PC card.
No
Is the DTV video and audio signal output to SCART output?
Yes
The failure in between EMMA and the ASIC.
Replace the MAIN Assy.
No
In the digital broadcasting input, is TP6106 High?
No
COFDM does not lock a broad-casting stream, Tuner or COFDM is defective.
Replace the MAIN Assy.
Yes
Has the Bitstream output (digital signal, 0 to 3.3 V) arrived at R6260 near the IC6206
No
Replace the IC6205, IC6206 and IC6207.
Yes
EMMA is defective.
Replace the MAIN Assy.

# 5.2.7 AUDIO SYSTEM

## Flowchart of Failure Analysis for The Audio System

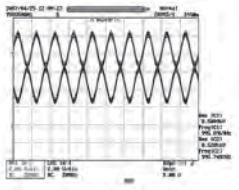

=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
Yes
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Sound of all functions does not output?
No
Go to Ⓐ.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is a voltage (+16.5 V) supplied to IC9201?
No
Check the cables (CN8806) from the main power and peripheral circuit. Repair the failure points.
Yes
Is not a signal output from CN9251? (pins 2, 4, 5, 7) 42 43
No
Check the CN9251 and peripheral circuit. Repair the failure points.
Yes
Is not a PWM signal output from IC9201? (pins 34, 38, 44, 52) 44 45
No
Check between the LPF (L9255, L9256) and CN9251. Repair the failure points.
Yes
Is not a PWM signal output from IC9101? (pins 52, 53, 54, 55) 46 47
No
Check around the IC9101 and clock output of X9101. Repair the failure points.
Yes
Is a signal input to IC9101? (pins 24, 25) 48
No
Check between the input terminals and IC9101. Repair the failure points.
Yes
Has I2C communication signal arrived at IC9101?
No
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC9181 normal?
Check the IC9181 and peripheral circuit. Repair the failure points.
Yes
Are signals input to IC9151 and IC9152? (pins 2, 3, 5, 6) 49 50
Check the peripheral circuits and the communication with the microcomputer. If there was no ploblem replace the MSP5651M.
Yes
Are signals output from IC9151 and IC9152? (pins 1, 7) 51
Check the IC9151, IC9152 and peripheral circuit. Repair the failure points.
Yes
Ⓑ


B
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a signal output from IC9101? (pins 38, 39)
52
No
Check around the IC9101 and repair the failure points.
Yes
Is a signal output from IC8871? (pins 1, 7)
53
No
Check the communications around the IC8871 and between the IC8871 and the microcomputer. If there was no ploblem, replace BH3544F.
Yes
Check the cables between CN8802 and CN9352 or check around the Headphones jack.
NG
Replace the cables or SIDE IO Assy.

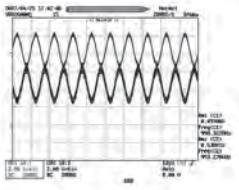
## ● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

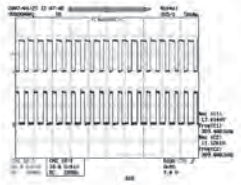
**42 CN9251 - pins 2, 4**
V: 2 V/div H: 1 mS/div



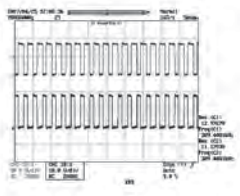
**43 CN9251 - pins 5, 7**
V: 2 V/div H: 1 mS/div



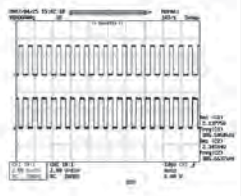
**44 IC9201 - pins 34, 38**
V: 10 V/div H: 5 µS/div



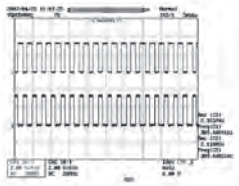
**45 IC9201 - pins 44, 52**
V: 10 V/div H: 5 µS/div



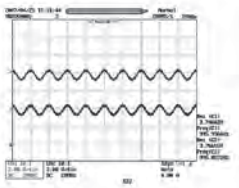
**46 IC9101 - pins 52, 53**
V: 2 V/div H: 5 µS/div



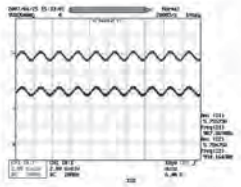
**47 IC9101 - pins 54, 55**
V: 2 V/div H: 5 µS/div



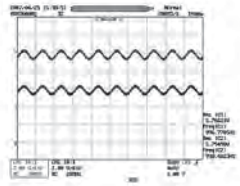
**48 IC9101 - pins 24, 25**
V: 2 V/div H: 1 mS/div



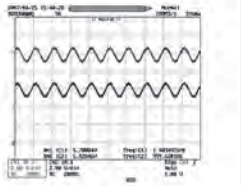
**49 IC9151 - pins 2, 3**
V: 2 V/div H: 1 mS/div



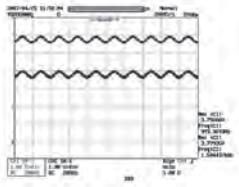
**50 IC9151 - pins 5, 6**
V: 2 V/div H: 1 mS/div



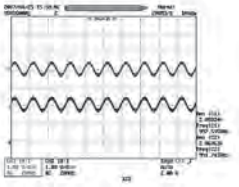
**51 IC9151 - pin 1, etc.**
V: 2 V/div H: 1 mS/div

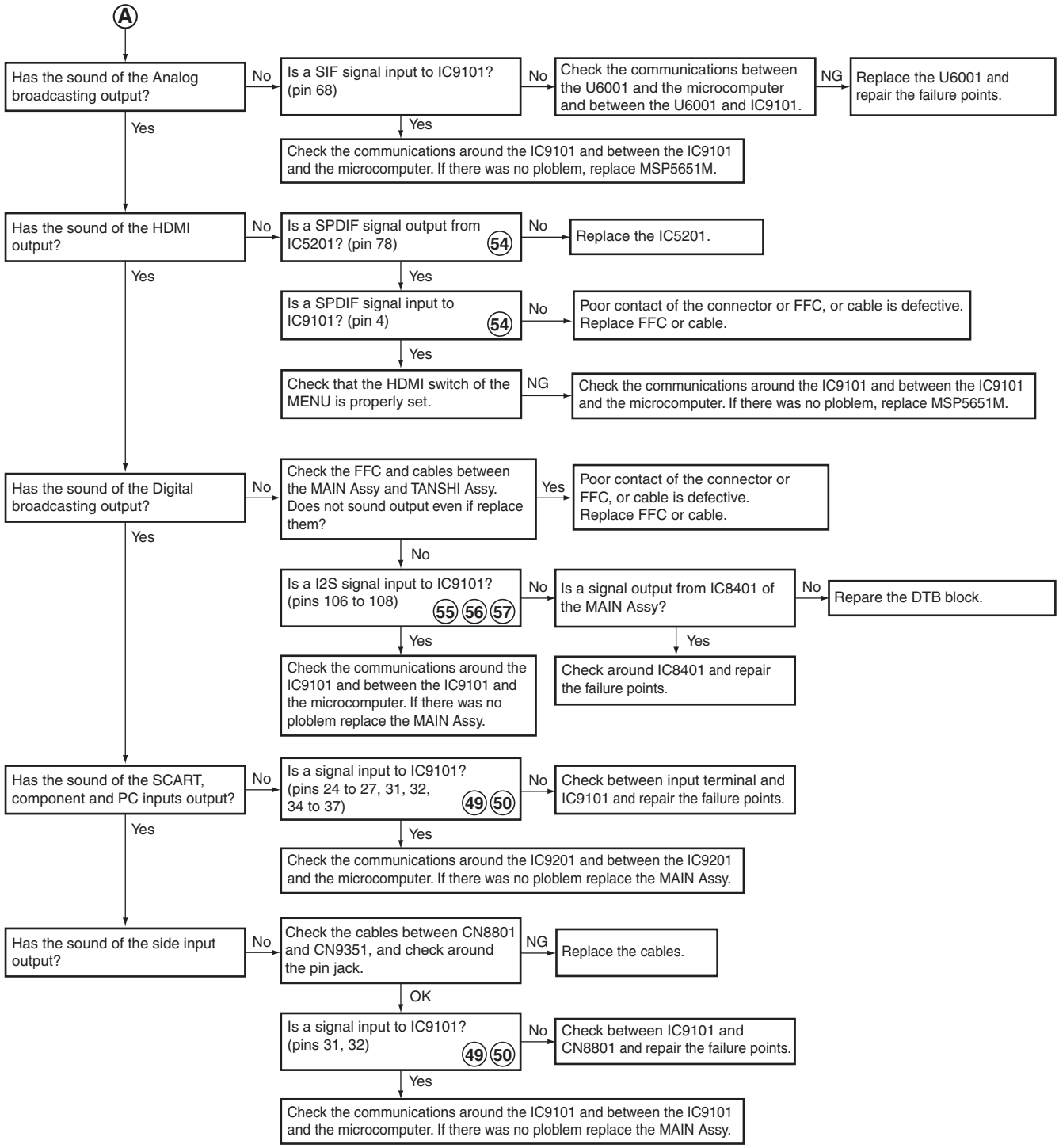


**52 IC9101 - pins 38, 39**
V: 1 V/div H: 1 mS/div



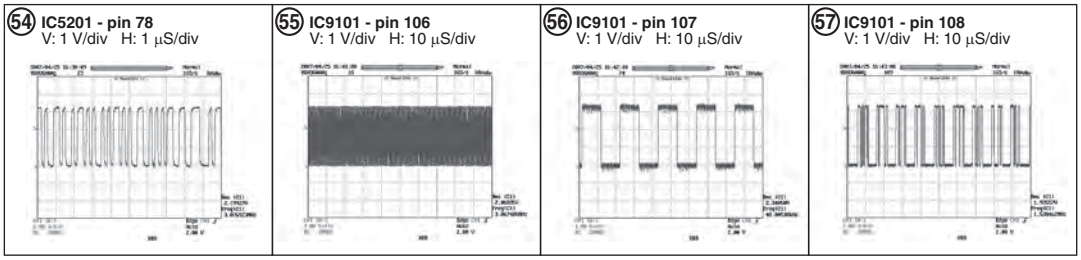
**53 IC8871 - pins 1, 7**
V: 1 V/div H: 1 mS/div




A
Has the sound of the Analog broadcasting output?
No
Is a SIF signal input to IC9101? (pin 68)
No
Check the communications between the U6001 and the microcomputer and between the U6001 and IC9101.
NG
Replace the U6001 and repair the failure points.
Yes
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Has the sound of the HDMI output?
No
Is a SPDIF signal output from IC5201? (pin 78) 54
No
Replace the IC5201.
Yes
Yes
Is a SPDIF signal input to IC9101? (pin 4) 54
No
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
Check that the HDMI switch of the MENU is properly set.
NG
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem, replace MSP5651M.
Has the sound of the Digital broadcasting output?
No
Check the FFC and cables between the MAIN Assy and TANSHI Assy. Does not sound output even if replace them?
Yes
Poor contact of the connector or FFC, or cable is defective. Replace FFC or cable.
Yes
No
Is a I2S signal input to IC9101? (pins 106 to 108) 55 56 57
No
Is a signal output from IC8401 of the MAIN Assy?
No
Repare the DTB block.
Yes
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Check around IC8401 and repair the failure points.
Has the sound of the SCART, component and PC inputs output?
No
Is a signal input to IC9101? (pins 24 to 27, 31, 32, 34 to 37) 49 50
No
Check between input terminal and IC9101 and repair the failure points.
Yes
Yes
Check the communications around the IC9201 and between the IC9201 and the microcomputer. If there was no ploblem replace the MAIN Assy.
Has the sound of the side input output?
No
Check the cables between CN8801 and CN9351, and check around the pin jack.
NG
Replace the cables.
OK
Is a signal input to IC9101? (pins 31, 32) 49 50
No
Check between IC9101 and CN8801 and repair the failure points.
Yes
Check the communications around the IC9101 and between the IC9101 and the microcomputer. If there was no ploblem replace the MAIN Assy.

## ● Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

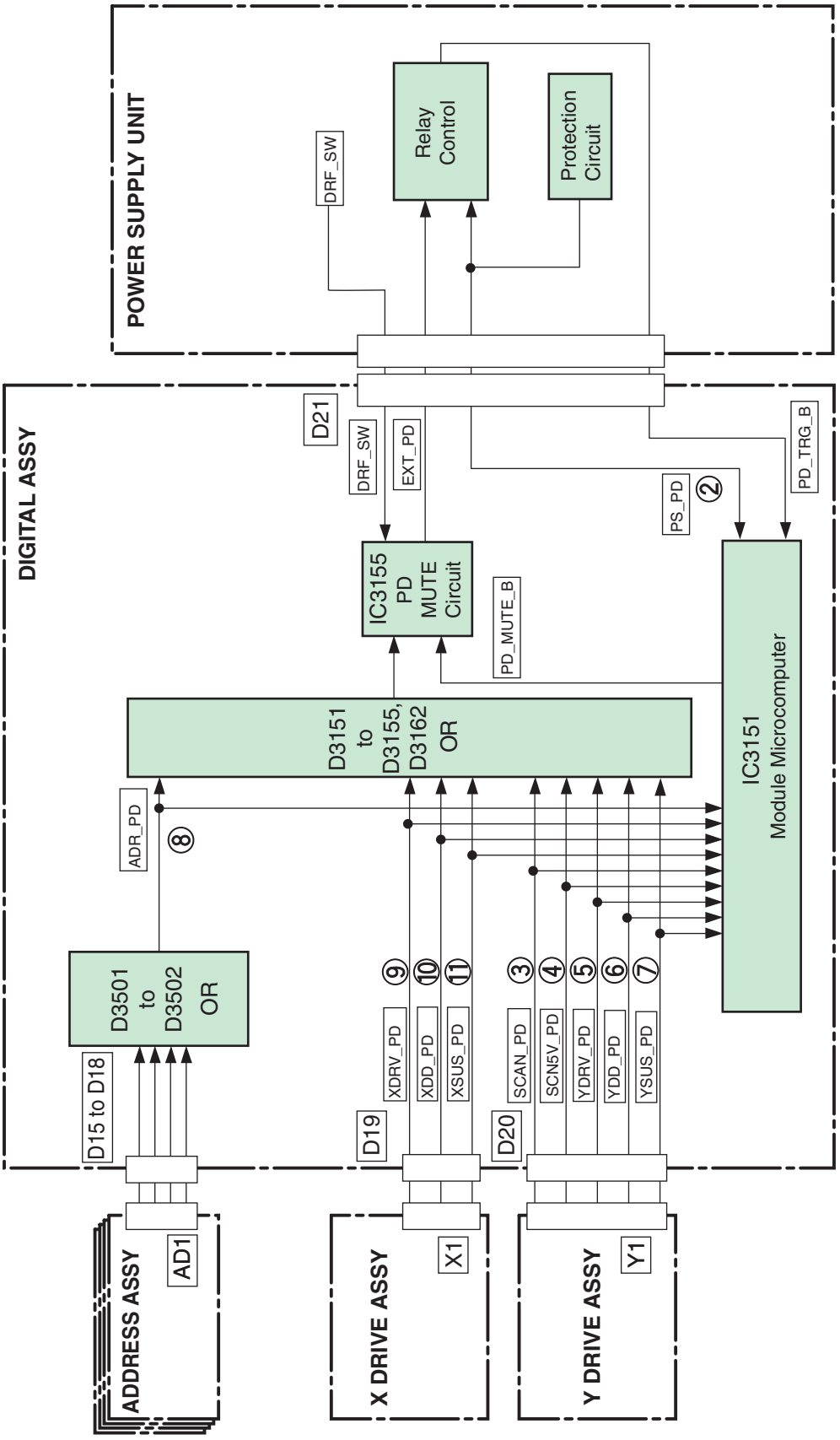

54 IC5201 - pin 78
V: 1 V/div H: 1 µS/div
55 IC9101 - pin 106
V: 1 V/div H: 10 µS/div
56 IC9101 - pin 107
V: 1 V/div H: 10 µS/div
57 IC9101 - pin 108
V: 1 V/div H: 10 µS/div

# 5.3 DIAGNOSIS OF PD (POWER-DOWN)

## 5.3.1 BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

### ■ Block Diagram of the Power-Down Signal

**Note:**
The figures ② to ⑪ indicate the number of times the LED flashes when power-down occurs in the corresponding route.



## 5.3.2 PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

### ■ Prediction of failure symptoms when a PD (power-down) is generated

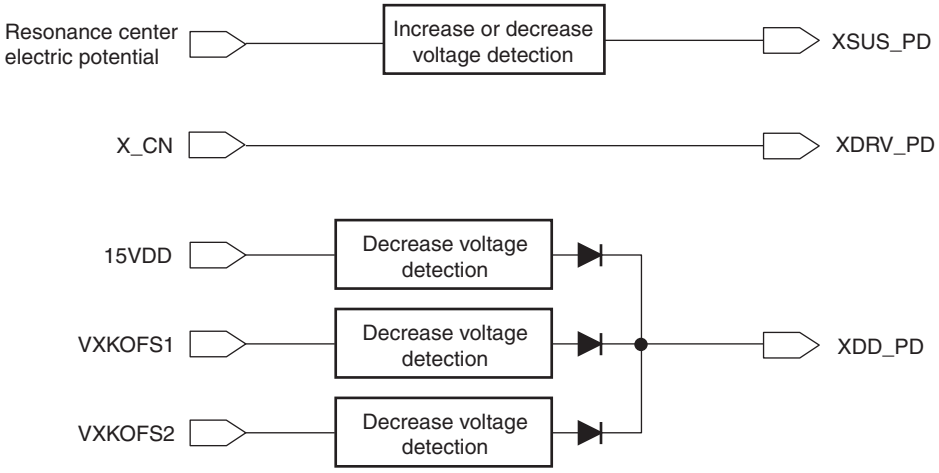
| Red LED Flashing Count | Operating PD | Defective Assy | PD Outline | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|
| 2 | POWER | POWER SUPPLY Unit | Failure in the POWER SUPPLY Unit | | | |
| | | X DRIVE Assy | VSUS UVP | X SUS BLOCK | Q1219,Q1220,Q1221, Q1222,Q1223,Q1224,Q1201 | VSUS-PSUS and SUSOUT-SUSGND are short-circuited. |
| | | Y DRIVE Assy | | Y SUS BLOCK | Q2217,Q2218,Q2219, Q2221,Q2222,Q2223 | VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited. |
| 3 | SCAN | SCAN Assy | VH UVP | SCAN IC | SCAN IC | |
| | | X DRIVE Assy | | X SUS BLOCK | Q1219,Q1220,Q1221, Q1222,Q1223,Q1224,Q1201 | VSUS-PSUS and SUSOUT-SUSGND are short-circuited. |
| | | Y DRIVE Assy | | Y SUS BLOCK | Q2217,Q2218,Q2219, Q2221,Q2222,Q2223 | VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited. |
| | | | | VH DC/DC converter | IC2601,D2604 | |
| | | | Connectors disconnection detection | CN2001,CN2301 | | |
| | | DIGITAL Assy | | CN3506 | | |
| 4 | SCN-5V | SCAN Assy | IC5V UVP | SCAN IC | | |
| | | Y DRIVE Assy | | IC5V DC/DC | | |
| | | | Connectors disconnection detection | CN2501,CN2502 | Q2554,D2558 | |
| 5 | Y-DCDC | Y DRIVE Assy | Connectors disconnection detection | CN2001 | | |
| | | DIGITAL Assy | | CN3506 | | |
| 6 | Y-DCDC | Y DRIVE Assy | VNOFS UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334 | LMSK is short-circuited. |
| | | | | VNOFS DC/DC | D2606,Q2710,Q2711 | |
| | | | Vprst UVP | YPRST Regulator | D2602,Q2604,R2610 | |
| | | | 15VDD UVP | 15VDC/DC | Q2572 | |
| | | | VKOFS1_2 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334 | LMSK is short-circuited. |
| | | | | VKOFS1_2 Regulator | Q2705,Q2702 | |
| | | | VKOFS3 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334 | LMSK is short-circuited. |
| | | | | VKOFS3 Regulator | Q2706,Q2703 | |
| | | | VKOFS4 UVP | Y MSK BLOCK | Q2320,Q2321,Q2322,Q2323, Q2324,Q2325,Q2330,Q2332, Q2334 | LMSK is short-circuited. |
| | | | | VKOFS4 Regulator | Q2707,Q2704 | |
| 7 | Y-SUS | Y DRIVE Assy | Center electric potential detection PD | Y RESONANCE BLOCK | Q2106,Q2107,Q2108,Q2110,Q2112, D2104,D2105,D2108,D2109 | |
| 8 | ADRS | ADDRESS Assy | Vadr LVP | ADDRESS RESONACE BLOCK | IC1651 to IC1656, IC1851 to IC1855 | Vadr is short-circuited (TCP,etc.). Each TCP unit. |
| | | | | | Q1731,Q1741,Q1751,Q1761,Q1771,Q1781,Q1931,Q1941,Q1951, Q1961,Q1971,(D1731,D1741,D1751,D1761,D1771,D1781,D1931, D1941,D1951,D1961,D1971,R1714 to R1719,R1914 to R1918) | Between ADR_B and Vadr is short-circuited. Each resonance block unit. |
| | | | | | C1711,C1911,(R1714 to R1719,R1914 to R1918,R1735,R1745,R1755, R1765,R1775,R1785,R1935,R1945,R1955,R1965,R1975,D1731,D1741, D1751,D1761,D1771,D1781,D1931,D1941,D1951,D1961,D1971) | ADR_B capacitor is short-circuited. |
| | | | Connectors disconnection detection | CN1601,CN1602,CN1801,CN1802 | | |
| | | DIGITAL Assy | | CN3501 to CN3504 | | |
| | | X DRIVE Assy | | CN1202,CN1203 | | |
| | | Y DRIVE Assy | | CN2302,CN2303,CN2304 | | |
| 9 | XDRIVE | X DRIVE Assy | Connectors disconnection detection | CN1001 | | |
| | | DIGITAL Assy | | CN3505 | | |
| 10 | X-DCDC | X DRIVE Assy | Connectors disconnection detection | CN1201 | | |
| | | | 15VDD UVP | X SUS BLOCK | L1201,R1217 | |
| | | | | 15VDC/DC | Q1402 | |
| | | | VXKOFS1 UVP | VXKOFS1 Regulator | Q1403,Q1404,IC1401 | |
| | | | | X OFFSET BLOCK | Q1301,Q1303 | |
| | | | VXKOFS2 UVP | VXKOFS2 Regulator | Q1405,Q1406,IC1402 | |
| | | | | X OFFSET BLOCK | Q1302,Q1304 | |
| 11 | X-SUS | X DRIVE Assy | Center electric potential detection PD | X RESONANCE BLOCK | Q1108,Q1109,Q1110,Q1112, D1106,D1107,D1110,D1111 | |

UVP: Under Voltage Protect , OVP: Over Voltage Protect

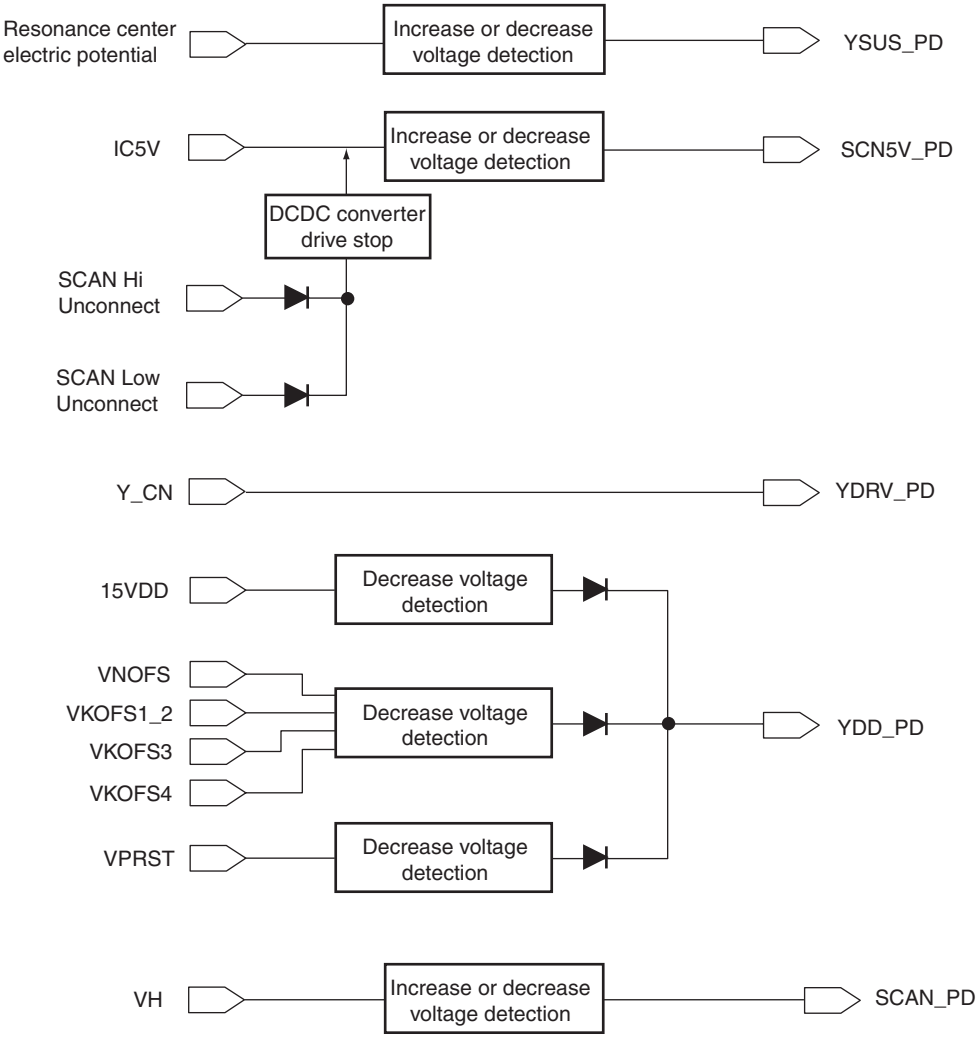
## ■ How to distinguish which connector is disconnected

| Assy | Connector | To which Assy the Connector is Connected | LED Flashing Count | Screen Display |
|---|---|---|---|---|
| X DRIVE Assy | CN1001 | DIGITAL Assy | 5 (XDRIVE) | |
| | CN1201 | POWER SUPPLY Unit (drive system power) | 11 (X-SUS) | |
| | CN1202 | POWER SUPPLY Unit (ADR system power) | 8 (ADRS) | |
| | CN1203 | ADDRESS Assy | 8 (ADRS) | |
| Y DRIVE Assy | CN2001 | DIGITAL Assy | 3 (SCAN) | |
| | CN2301 | POWER SUPPLY Unit (drive system power) | 3 (SCAN) | |
| | CN2302 | POWER SUPPLY Unit (ADR system power) | 8 (ADR) | |
| | CN2303, CN2304 | ADDRESS Assy | 8 (ADR) | |
| | CN2501, CN2502 | SCAN A, B Assy | 4 (SCN-5V) | |
| SCAN A, B Assy | CN2801, CN2901 | Y DRIVE Assy | 4 (SCN-5V) | |
| ADDRESS Assy | CN1602, CN1802 | DIGITAL Assy | 8 (ADRS) | |
| | CN1601, CN1801 | X DRIVE Assy, Y DRIVE Assy | 8 (ADRS) | |

## X Drive PD system



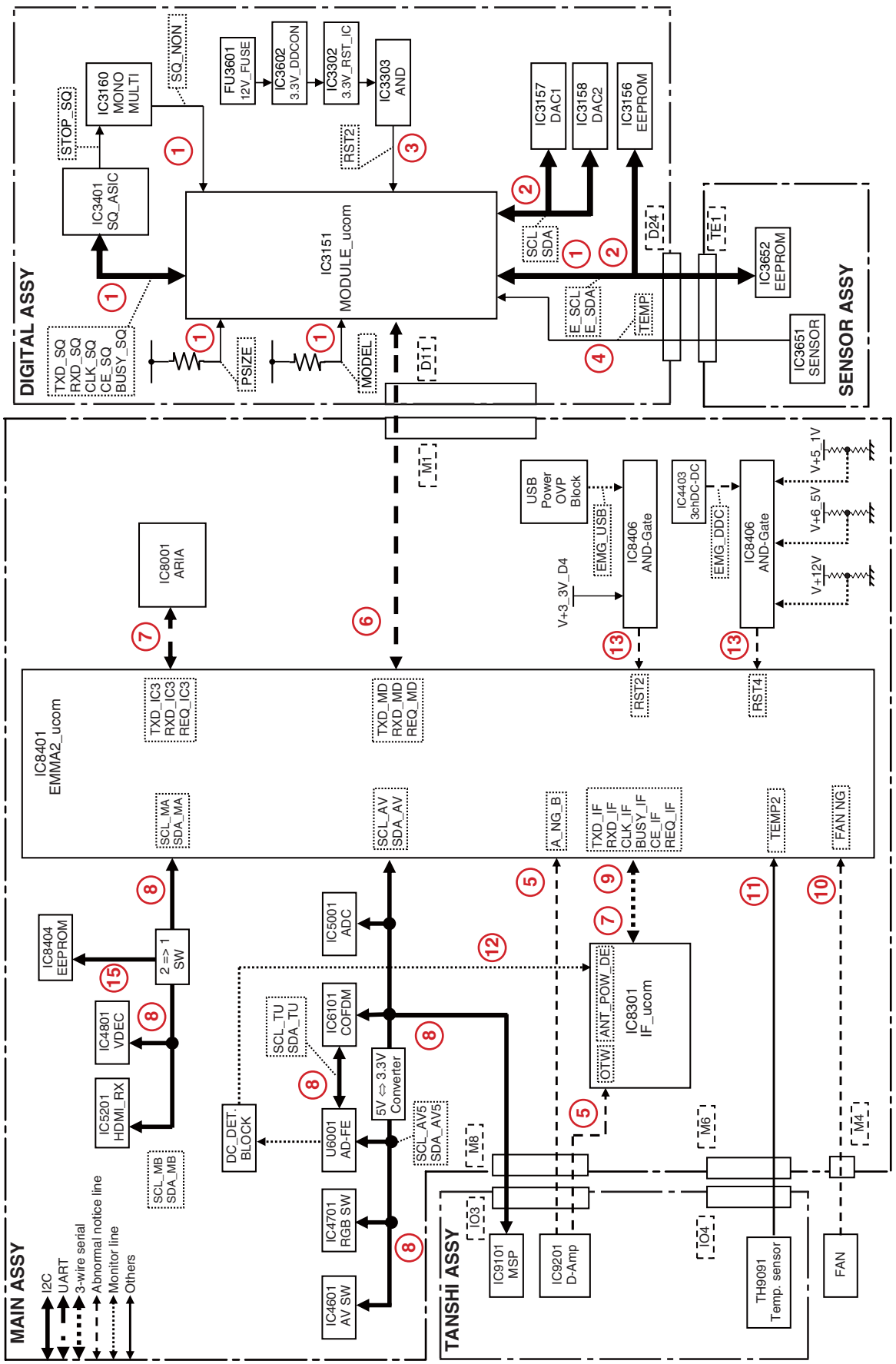

## Y Drive PD system



# 5.4 DIAGNOSIS OF SD (SHUTDOWN)

## 5.4.1 BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

### ■ Block Diagram of the Shutdown Signal




**Note :** The figures ① to ⑮ indicate the number of times the LED flashes when shut-down occurs in the corresponding route.

| Frequency of LED Flashing | Major Type | Detailed Type | Log Indication in Factory Mode | | Checkpoint | Possible Defective Part | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MAIN | SUB | | | |
| Blue 1 | Abnormality in the Sequence LSI | Communication error | SQ-LSI | RTRY | CLK_SQ/TXD_SQ, etc. | IC3401, IC3151 | SQ_IC communication not established. IC3401 may not have properly started up. |
| | | Drive stop | | SQNO | Check if the video sync signal is input to IC3401. | CN3001, IC3001,IC3401 | A shutdown occurs if IC3401 has not properly started up (a communication failure between IC3401 and IC3306 [FLASH]). |
| | | Busy | | BUSY | BUSY_SQ | IC3401, IC3151 | If BUSY_SQ remains high, a shutdown is generated. |
| | | Incoherent version (hardware, software) | | VER-HS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | The written SEQ-PROG is incoherent with data on the DIGITAL Assy. |
| | | Incoherent version (memory, software) | | VER-MS | Check the model number of the DIGITAL Assy and the destination of SEQ-PROS. | IC3306, IC3151 | A shutdown occurs if the SEQ-PROG that has been stored in backup memory does not coincide with the actual SEQ-PROG. |
| Blue 2 | Failure in IIC communication with the module microcomputer | DIGITAL Assy EEPROM | MD-IIC | EEPROM | IIC communication line of IC3156 | IC3156, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | SENSOR Assy EEPROM | | BACKUP | IIC communication line of IC3652 | IC3652, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC1 | | DAC1 | IIC communication line of IC3157 | IC3157, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| | | DAC2 | | DAC2 | IIC communication line of IC3158 | IC3158, IC3151 | Check the pull-up resistor of the IIC control line and the power to the corresponding IC. |
| Blue 3 | Abnormality in RST2 power decrease | – | RST2 | – | Is the output voltage of the DC-DC converter low? | IC3602(BD9302FP) | If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds. |
| | | | | | The 12 V power is not output. | POWER SUPPLY Unit,FU3601 | Check if V + 12 V is started. Also check if the FU3601 on the DIGITAL Assy has been melted. |
| Blue 4 | Abnormality in panel temperature | – | TMP-NG | TMP-H | High temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | If TEMP1 that is read by the module microcomputer is 75°C or higher, a shutdown will be generated. |
| | | | | TMP-L | Low temperature abnormality in the panel temperature sensor | SENSOR Assy (IC3651) | A shutdown occurs if the reading of TEMP1 detected by the module microcomputer is –20°C or less. Also check the connection with the SENSOR Assy. |
| Blue 5 | Short-circuiting of the speakers / D-AMP temperature abnormality | – | AUDIO | – | Speaker terminals | JA9301 | Check if any speaker cable is in contact with the chassis. |
| | | | | | AUDIO_AMP | IC9201, IC9101 | Check if the AMP output is short-circuited. |
| | | | | | Periphery of the cable between IO3 and M8, and IO6 and P5 | CN8803,CN4001,CN8806,P5 | Check if cables are firmly connected. |
| Blue 6 | Failure in communication with the module microcomputer | – | MODULE | – | Communication line between MAIN and MOD | IC3151, IC8401 | Check the communication lines (TXD_MOD/RXD_MOD/REQ_MOD). |
| | | | | | Periphery of the cable between D11 and M1 | CN3001, CN4101 | Check if cables are firmly connected. |
| Blue 7 | Failure in main microcomputer 3-wire serial communication | IF microcomputer | MA-3L | IF | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| | | MULTI processor | | MULTI | Communication line between MULTI and MAIN | IC8001, IC8401 | Check the communication lines (TXD_IC3/RXD_IC3). |
| Blue 8 | Failure in IIC communication with the main microcomputer | Tuner 1 | MA-IIC | FE1 | IIC communication line between Tuner and MAIN | U6001,IC8401,IC6101 | Check the communication lines (SCL_TU/SDA_TU or SCL_AV5/SDA_AV5). |
| | | MSP/MAP | | MSPMAP | IIC communication line between MSP/MAP and MAIN | IC9101, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | AV switch | | AV-SW | IIC communication line between AV-SW and MAIN | IC4601, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | RGB switch | | RGB-SW | IIC communication line between RGB-SW and MAIN | IC4701, IC8401 | Check the communication lines (SCL_AV5/SDA_AV5). |
| | | VDEC | | VDEC | IIC communication line between M-VDEC and MAIN | IC4801, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| | | VDEC SDRAM | | SDRAM | IIC communication line between VDEC and SDRAM | IC4801, IC4802 | Check the communication lines (SDRAM). Defective SDRAM |
| | | AD/PLL | | ADC | IIC communication line between ADC and MAIN | IC5001, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| | | HDMI | | HDMI | IIC communication line between HDMI_RX and MAIN | IC5201, IC8401 | Check the communication lines (SCL_MB/SDA_MB). |
| | | COFDEM | | DEMOD | IIC communication line between COFDM and MAIN | IC6101, IC8401 | Check the communication lines (SCL_AV/SDA_AV). |
| Blue 9 | Failure in communication with the main microcomputer | – | MAIN | – | Communication line between IF and MAIN | IC8301, IC8401 | Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF). |
| Blue 10 | FAN NG | FAN1 | FAN | FAN1 | Dirt attached to the fan motor | – | Check the fan(AXM1057). |
| | | | | | Periphery of the FAN CONNECT | AWW1290, AWW1329 | FAN NG |
| | | | | | Periphery of the cable between FA1 and M5, FAN and M4, and FA2 and FA5 | CN9551 to CN9555,CN4103,CN4108 | Check if cables are firmly connected. |
| | | | | | Periphery of the fan control regulator | IC4310, IC4303 | – |
| Blue 11 | High temperature of the unit | – | TEMP2 | – | Temperature sensor or its periphery | – | TEMP2 A shutdown occurs because of high temperature. |
| | | | | | Periphery of the temperature sensor | TH9091 | TEMP2 |
| | | | | | Periphery of the cable between IO4 and M6 | CN8804, CN4004 | Check if cables are firmly connected. |
| Blue 12 | Digital Tuner | DTV startup error | DTUNER | PS/RST | – | IC8401 | Check if DTV antenna is short-circuited. |
| | | DTV ANTENNA | | D-ANT | – | – | – |
| Blue 13 | Failure in the power supply | DC-DC Converter power decrease | RST-MA | M-DCDC | DC-DC converter or its periphery, RST2 | IC4403, Q4404 | Check if V + 3.3 V_D4 is started. |
| | | | | | EMG_USB | IC4309 | Check if the voltage at a waveform check point is 5 V. |
| | | POWER SUPPLY | | RELAY | The 12 V power is not output, RST4 | POWER SUPPLY Unit | Check if V + 12 V is started. |
| | | | | | The 6.5 V power is not output | POWER SUPPLY Unit | Check if V + 6.5 V is started. |
| | | | | | The 5.1 V power is not output | POWER SUPPLY Unit | Check if V + 5.1 V is started. |
| | | | | | EMG_DDC | DCDC converter | Check if the DCDC converter is overloaded. |
| | | | | | Periphery of the cable between P8 and M3 | CN4105 | Check if cables are firmly connected. |
| Blue 15 | Main EEPROM | Main EEPROM communication error | MA-EEP | – | IIC communication line between EEPROM and MAIN | IC8404, IC8401 | Check the communication lines (SCL_EP/SDA_EP). |

# 5.5 NON-FAILURE INFORMATION

## 5.5.1 INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

### ■ Information on symptoms that do not constitute failure

| Symptom | Cause, item to check, information |
|---|---|
| **HDMI: Symptoms concerning the input format and settings** | |
| The picture color for an INPUT 1 or 3 or 4 signal is not correct. | The color setting for INPUT 1 or 3 or 4 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB. |
| The video signal to INPUT 1 or 3 or 4 is not displayed, and a message is displayed. | A unsupported video signal is input. |
| The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input. | The audio setting for INPUT 1 or 3 is "AUTO," and a video signal is not input. If the audio setting is "AUTO," to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output. When the DVI equipment is connected, the analog signals are selected with the setting "AUTO." |
| No sound of signals to INPUT 1 or 3 or 4 is output. | The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital |
| The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly. | Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.) |
| **SCART video output** | |
| The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated. | The video signal output from the SCART connector is Macrovision protected. |
| The video signal is not output when the component signal is input to INPUT 2. | The video signal is not output from the SCART connector when the component signal is selected. |
| The video signal is not output when the video signal is input to INPUT 1 or 3 or 4. | The video signal is not output from the SCART connector when the HDMI signal is selected. |
| **AUDIO OUT and SCART** | |
| The image displayed on the PDP is not synchronized with the sound from the SCART. | The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed. |
| **DIGITAL OUT** | |
| Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible. | The video signal output from the DIGITAL connector is copy-protected. |
| The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output. | The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output. |
| **Miscellaneous** | |
| The no-signal off function is not activated. | The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected. |
| The no-operation off function is not activated. | |
| Power management does not function. | Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input. |
| The AUTO SETUP function is not activated. | The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected. |
| The audio signal from the PC is not output. | Wrong connection of the cable to the SR connector is suspected. |
| Control via the SR connector is not possible. | Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected. |
| The picture-quality setting (AV Selection) is not stored. | The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored. |
| The picture size changes arbitrary. | The Auto Size setting is set to ON. |
| The display position of the screen changes slightly while the screen is on. | The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended. |
| The video signal to the S video connector is not displayed. | As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment. |
| The video signal to the composite video connector is not displayed. | |

**SUPPLEMENT: On the video setting for HDMI**

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

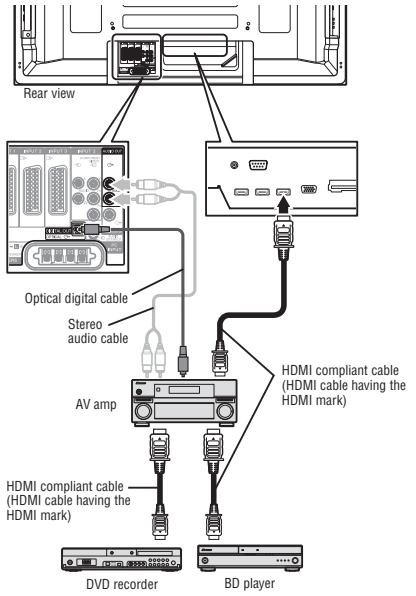
## 5.5.1.1 CONFIRMATION ON THE HDMI CONTROL FUNCTION

When you use the HDMI Control (HDMI-CEC) function, if the unit does not function properly, such as not being able to control or recognize connected equipment, check the following:

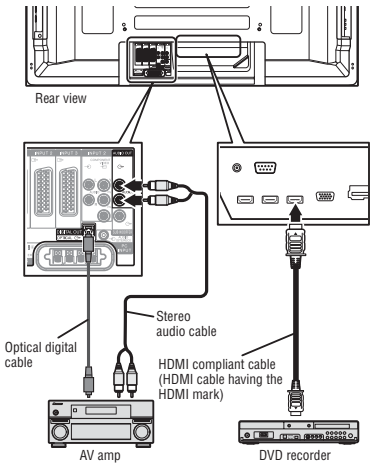
- **Confirmation of the manufacturer of the connected equipment**
  Check if the connected equipment was manufactured by Pioneer and if it supports the HDMI Control function.
  If its manufacturer is not Pioneer, proper operations are not guaranteed.

- **Confirmation of connections**
  Check if the unit is connected properly, as shown in the figures below:
  (For details, refer to "Making the HDMI Control connections" in the Operating instructions.)

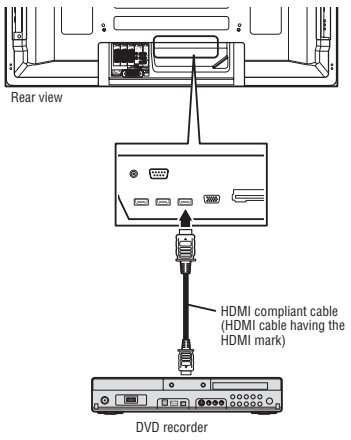
- **PDP-5080XD and PDP-508XD**


Rear view
Optical digital cable
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected

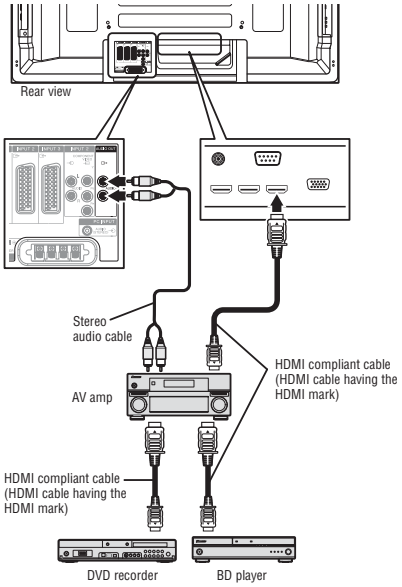



Example 2: When an AV amplifier that does not support HDMI Control is connected

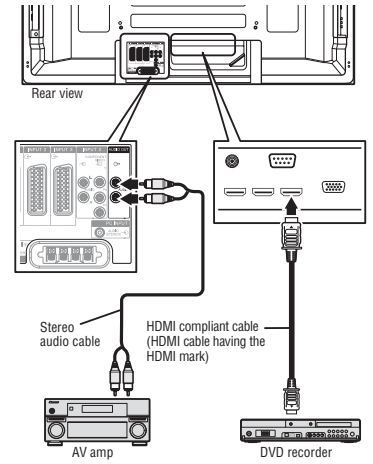



Example 3: When an AV amplifier is not connected

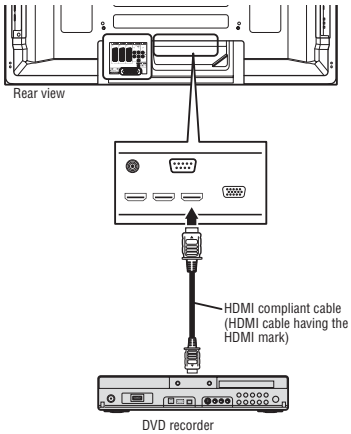
- **PDP-5080XA**


Rear view
Stereo audio cable
HDMI compliant cable (HDMI cable having the HDMI mark)
AV amp
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Example 1: When an AV amplifier that supports HDMI Control is connected



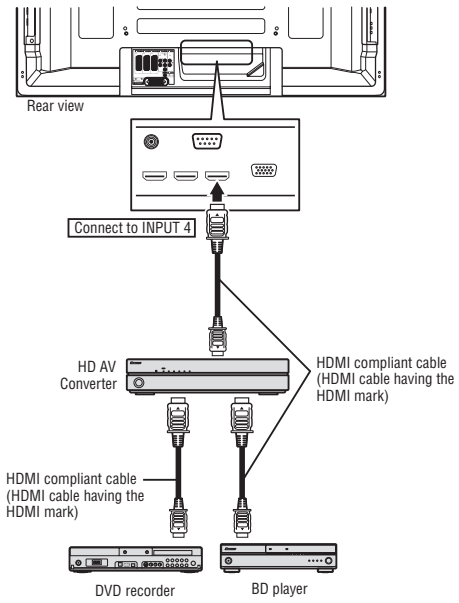

Example 2: When an AV amplifier that does not support HDMI Control is connected




Example 3: When an AV amplifier is not connected

Check that the following conditions are met:
- The connected equipment must support the HDMI Control function.
- The equipment must be connected to the INPUT connector that has been selected in "Input Setting" on the HDMI Control Setting menu.
- The connections must be made properly, as shown in the above figures (in a case where an AV device, such as an AV amplifier, and a DVD recorder/BD player are connected, in a case where only a DVD recorder/BD player is connected, and in a case where an AV device, such as an AV amplifier, which does not support HDMI-CEC, is connected).
- When an AV device that supports the HDMI Control function is connected, it must be connected between the PDP and a DVD recorder/BD player.
- An AV device, such as an AV amplifier, and the HD AV Converter must not be connected simultaneously.
- The HDMI Control function must be activated on the connected equipment (DVD recorder, BD player, AV device [AV amplifier, etc.], or the HD AV Converter). (Refer to the instruction manual of the connected equipment.)

If the HD AV Converter is connected, check if it is connected properly, as shown in the figure below.
(For details, refer to "Selecting the HD AV Converter" and "HD AV Converter mode" in the Operating instructions.)


Rear view
Connect to INPUT 4
HD AV Converter
HDMI compliant cable (HDMI cable having the HDMI mark)
HDMI compliant cable (HDMI cable having the HDMI mark)
DVD recorder
BD player

Check that the following conditions are met:
- The HD AV Converter must be connected to the INPUT 4 connector of the PDP.
- The HD AV Converter must be connected between the PDP and a DVD recorder/BD player, as shown in the figure above.
- The AV device, such as an AV amplifier, and the HD AV Converter are not connected simultaneously.
- The HDMI Control function must be activated on the HD AV Converter. (For details, refer to the instruction manual of the HD AV Converter.)

**• Confirmation of the number of connected devices**

Check that the number of connected devices does not exceed the maximum number for guaranteed operations.

| Equipment | Maximum Number |
|---|---|
| DVD recorder | 2 |
| BD player | 2 |
| AV System | 1 (∗1) |
| HD AV Converter | 1 (∗1) |

(∗1) Operation with either an AV device (AV amplifier, etc.) or the HD AV Converter is guaranteed. If both are connected, their operations are not guaranteed.

**• Confirmation of settings**

Check that the settings for the HDMI Control function are properly made. (For details, refer to "Setting the HDMI Control" in the Operating instructions.)

Check that the following conditions are met:
- "Input Setting" on the HDMI Control Setting menu must be set to the same input as that to which the equipment that supports the HDMI Control function is connected.
- When the HD AV Converter is connected, "HD AV Converter" on the HDMI Control Setting menu must be set to Enable.
- When Power Off Control, Power-On Ready, or Hold Sound Status are to be used, their settings must be On.
- When the HD AV Converter is connected, the HDMI Control switch on the rear panel of the HD AV Converter must be set to ON. The HDMI Control indicator on the front panel of the HD AV Converter will light in green when HDMI Control is enabled. (The HDMI Control indicator's lighting in green means HDMI Control is possible.)

• **Confirmation of operations**

Check that the HDMI Control function works properly.

(1) Connect a device that supports the HDMI Control function.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.
   1 Turn on the plasma television and all the connected devices.
   2 Confirm that the setting in “Input Setting” for “HDMI Control Setting” is properly entered according to the connected devices. Also confirm the HDMI Control related settings in the connected devices.
   3 Switch to the HDMI input terminals to which the devices are connected to check if audio and video images are properly output and displayed.
   4 Try turning off the plasma television, then turn the power back on to the plasma television.

(3) Perform "Power On Test" or "Power Off Test" on the HDMI Control Setting menu. (For details, refer to "Power On/Off Test" in the Operating instructions.)

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the connected device, and problems with the MAIN Assy, may be suspected:
- "Power On Test" or "Power Off Test" cannot be selected (the items are grayed)
- The connected device cannot be turned on/off.

In some cases, an operation check using another HDMI input connector may be required in order to narrow down the cause.

As for the HD AV Converter, because "Power On Test" / "Power Off Test" is not available, follow the procedures below:

(1) Connect the HD AV Converter to the INPUT 4 connector. Set "HD AV Converter" on the HDMI Control Setting menu to Enable. The HD AV Converter can support HDMI Control only when it is connected to the INPUT 4 connector of the PDP.

(2) Perform the procedures that are required after changing connections, which are described in "Making the HDMI Control connections" in the Operating instructions.

(3) Turn the PDP off. If the PDP turns off properly, turn the HD AV Converter off.

If the following occurs even if the operation check is performed properly, a failure, such as breakage of the HDMI cable, problems on the side of the HD AV Converter, and problems with the MAIN Assy, may be suspected:
- The HD AV Converter cannot be turned off.

## 5.5.2 FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

### ■ High-temperature protection function 1

If the panel temperature (TEMP1) reaches 70 °C, the limit for the maximum count of plasma discharge will be gradually decreased to lower the temperature of the panel.

- This function is activated based on the TEMP1 temperature.
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700.
- The maximum count of plasma discharge will begin to increase gradually if the panel temperature falls to the specified temperature.

### ■ High-temperature protection function 2

If the panel temperature (TEMP1) reaches 65 °C, the plasma-discharge count that is determined based on the input APL will be decreased. In actual operation, the ABL adjustment value will be offset.

- This function is activated based on the TEMP1 temperature.
- The ABL adjustment value will be decreased by one step per 30 seconds.
- The ABL adjustment value will begin to increase gradually if the panel temperature falls to the specified temperature.

### ■ Panel protection function 1 (protection against still picture)

If a still picture is displayed for 3 minutes or more, the limit for the maximum count of plasma discharge will be gradually decreased to minimize the effects of phosphor burn.

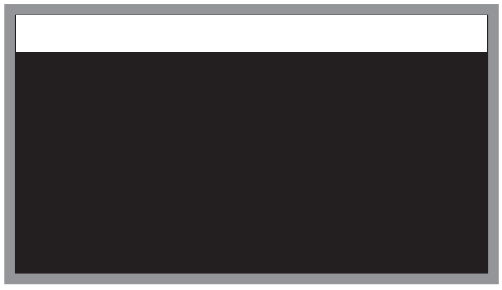
- This function is activated after detection if the displayed picture is still (the picture will be considered to be still if only the mouse cursor is moved).
- The limit for the maximum count of plasma discharge will be decreased 8 per 5 seconds.
- The lowest limit for the maximum count of plasma discharge is about 700 (it takes about 15 minutes to reach the lowest limit, although the required time varies depending on the displayed picture).
- The maximum count of plasma discharge will begin to increase gradually if the displayed picture is changed to animated picture.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

### ■ Panel protection function 2 (SCAN IC protection)

If a particular load is applied to the SCAN IC, the limit for the maximum count of plasma discharge will be gradually decreased.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.

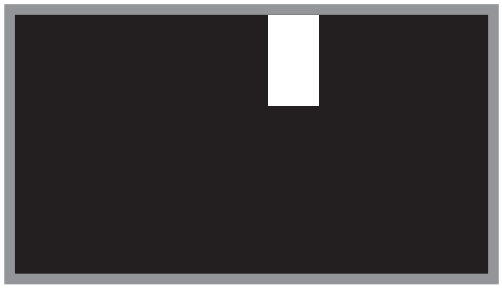


Detection example: SCAN IC protection

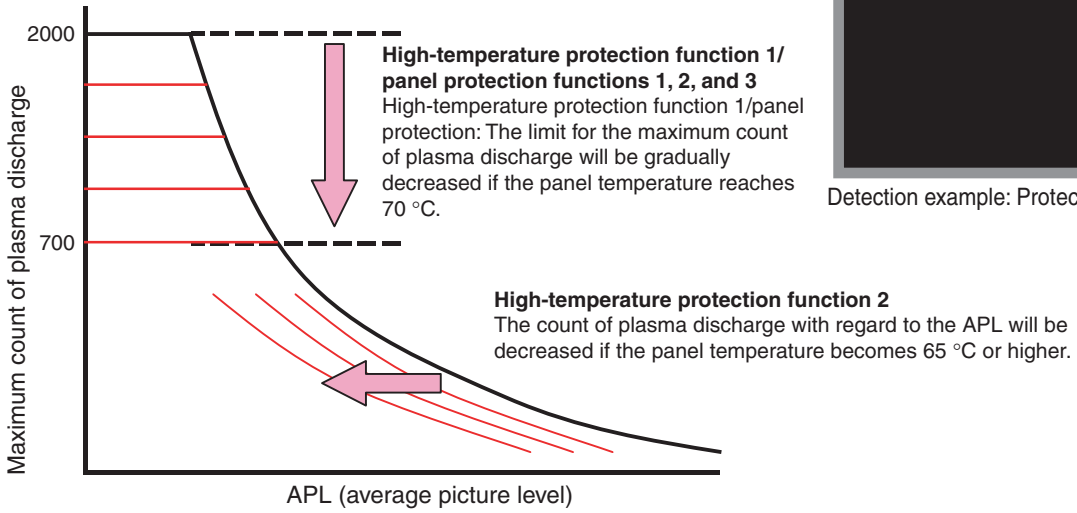
### ■ Panel protection function 3 (protection against panel cracking)

A bright window, as shown in the figure on the right, on the screen increases the heat of the panel. If such a pattern is recognized on the screen, the limit for the maximum count of plasma discharge will be gradually decreased.

**Note:** How to decrease the brightness level in this function is the same as in high-temperature protection function 1.



Detection example: Protection against panel cracking


2000
700
Maximum count of plasma discharge
APL (average picture level)
High-temperature protection function 1/ panel protection functions 1, 2, and 3
High-temperature protection function 1/panel protection: The limit for the maximum count of plasma discharge will be gradually decreased if the panel temperature reaches 70 °C.
High-temperature protection function 2
The count of plasma discharge with regard to the APL will be decreased if the panel temperature becomes 65 °C or higher.

# 5.6 OUTLINE OF THE OPERATION

## 5.6.1 PANEL DRIVE-POWER ON/OFF FUNCTION

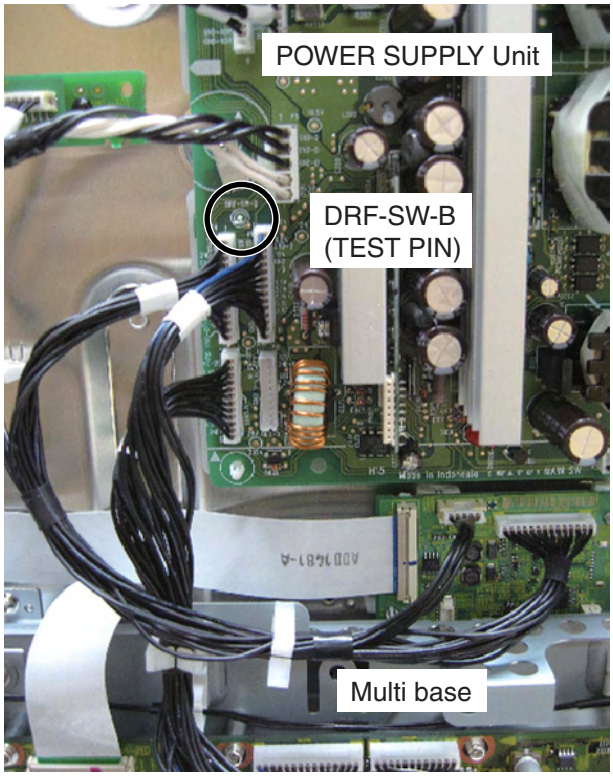
**Function:**
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

**Application:**
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

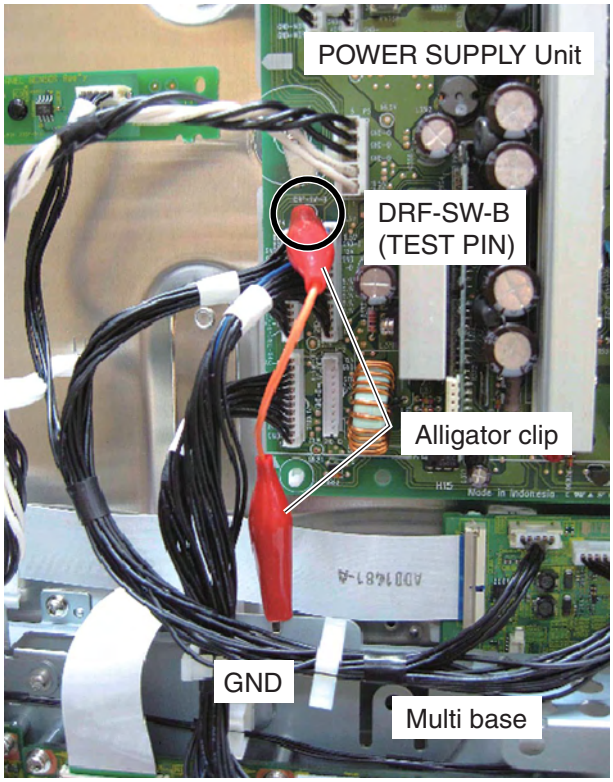
**Method:**
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

**Supplemental explanation:**
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- The [DRV S00/S01] commands are effective during Standby mode. However, if no operation is performed within about 10 seconds or more, the panel drive-power OFF state will be canceled.
- When the main power switch is set to OFF, no command is accepted.
- The panel drive-power OFF state established by the [DRVS00] command will be canceled by unplugging the AC power cord, setting the main power switch to OFF, or by performing no operation for 10 seconds or more during Standby mode.

When the panel drive-power is ON



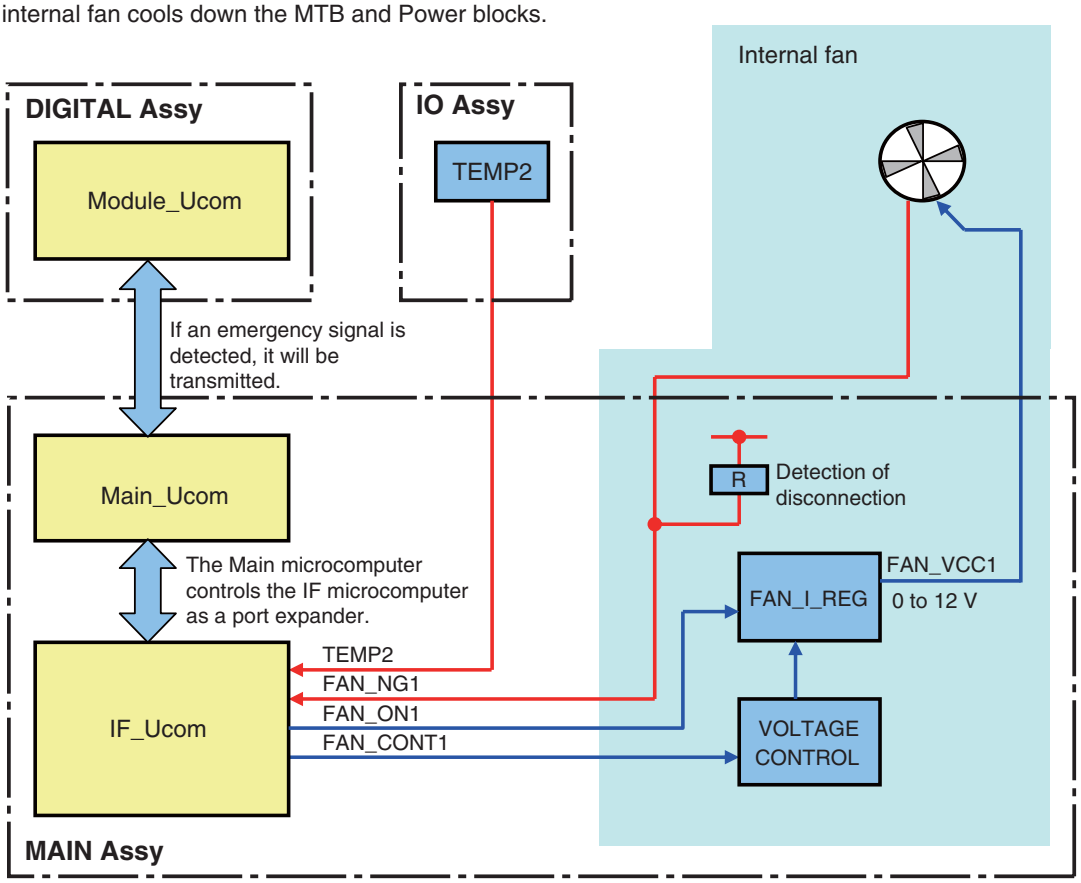

When the panel drive-power is OFF



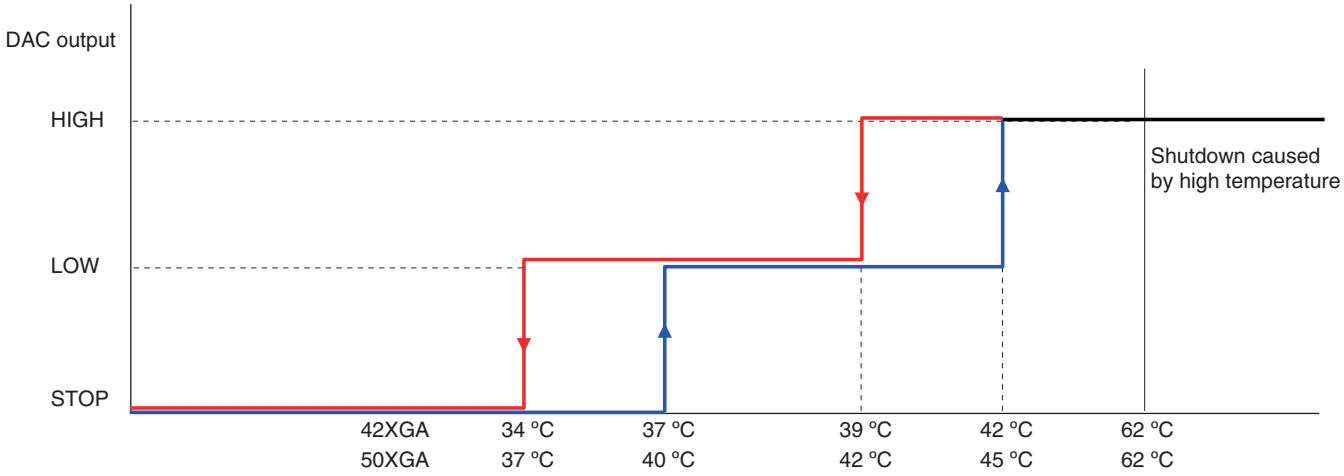
## 5.6.2 SPECIFICATION OF THE FAN CONTROL

### ■ Block diagram

The internal fan cools down the MTB and Power blocks.




### ■ Operation specifications



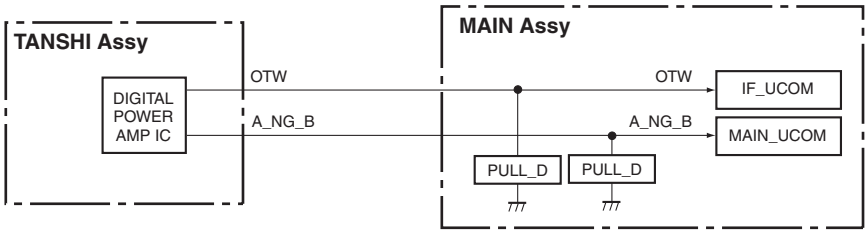

**Notes:**

- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.

# 5.6.3 PROCESSING IN ABNORMALITY

## Protection of the Power Amplifier

### ● Circuit configuration




### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| A_NG_B | AUDIO | Shutdown occurs when the signal is "L." 30 mS × 3 times | RST4 = "H" (always) (Monitoring starts 2 sec after the above conditions are established.) | The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions. |
| OTW | AUDIO | Shutdown occurs when the signal is "L." 130 mS × 3 times | | |

### ● Operation specifications of the main CPU

(1) When a shutdown decision is made by the main CPU
- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again." (For 50-inch models) (For 42-inch models, an indication declaring a forced power-off is displayed.)

(2) Display conditions
When the panel is on: A warning indication is displayed immediately.
When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

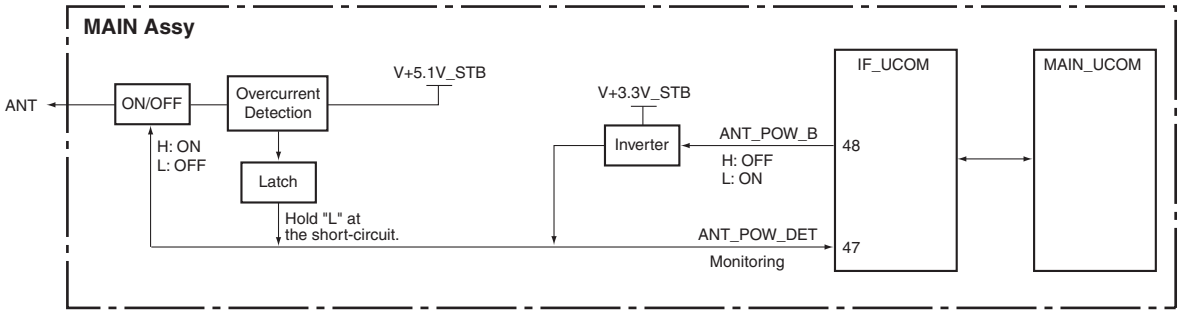
**Note:** A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

### ● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

## DTB Antenna power supply

### ● Circuit configuration

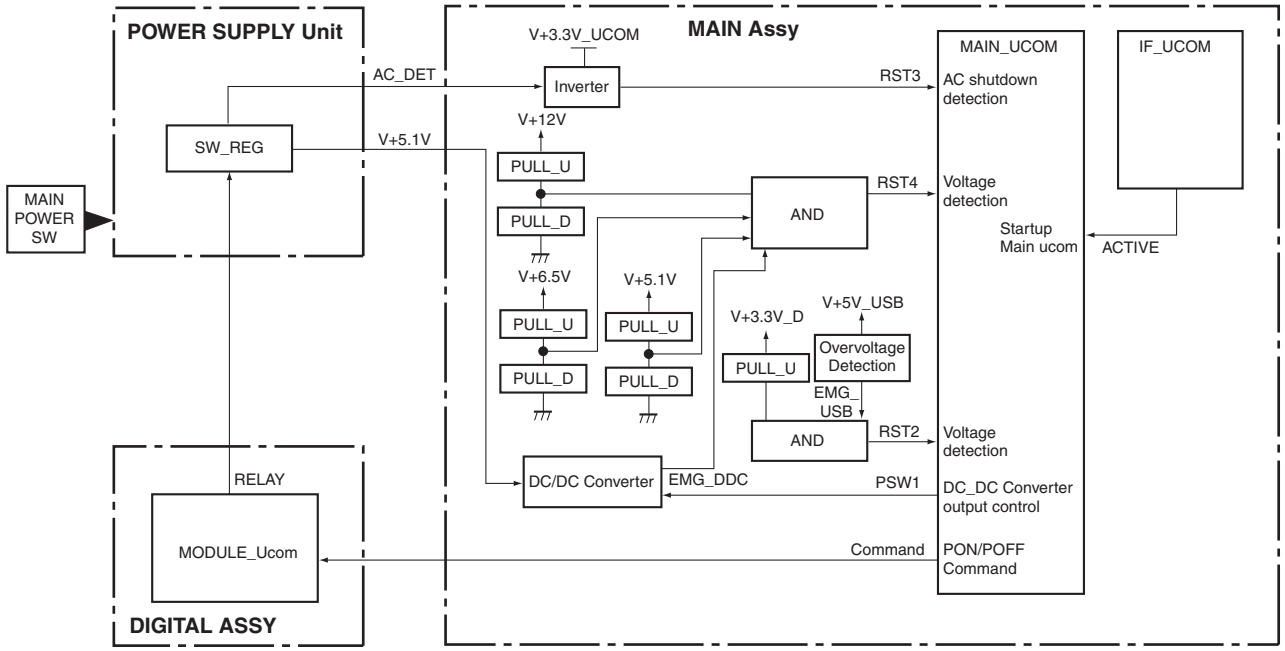



### ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| ANT_POW_DET | DTB antenna short-circuited | Flashing of the LED starts when the signal is L (100 mS, 3 times) | RST4 = H and ANT_POW_B = L | If "ANT_POW_DET = L" is detected (established) under the monitoring conditions, an SD log is created, and the LED flashes for 60 sec. A shutdown process is not performed in the power system. |

# Power supply and DC-DC converter

## ● Circuit configuration

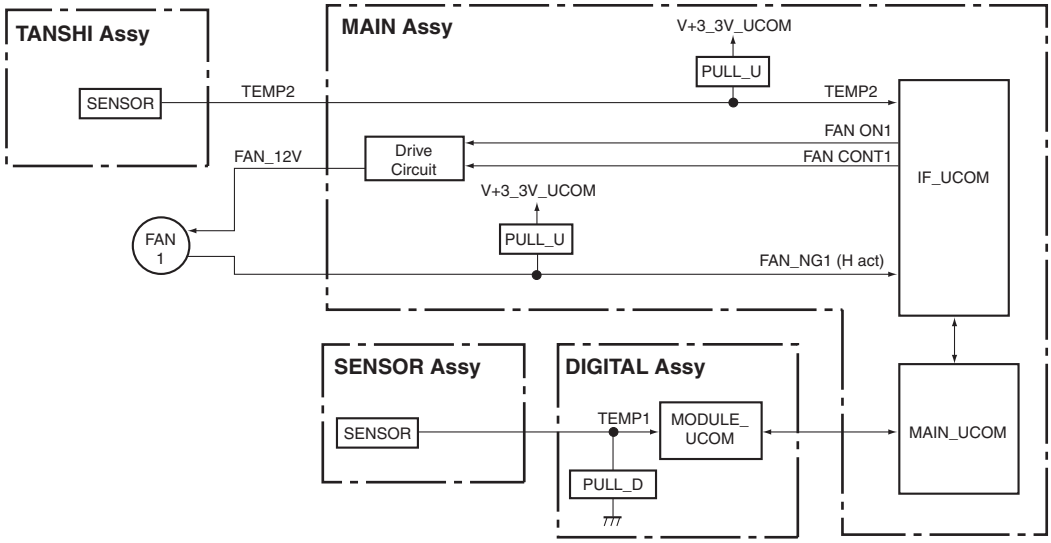



## ● Specifications for port monitoring

| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| RST2 | ASIC power (M-DCDC) | Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON. | • Panel ON (RST4 = H and PSW1 = L)<br>• While awaiting restoration of RST2 (RST2 = L) | The SD timer starts when "RST2 = L" is detected under monitoring conditions. If "RST3 = H," "M_SW_DET_B = H," or "RST4 = L" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 ms. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.<br>If RST2 is H, a restoration process starts according to the latest power-on/-off status. |
| RST3 | AC power | AC_OFF when the signal is "H." | • Active STB (including SD/PD statuses)<br>• Functional STB<br>• Panel ON<br>• (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• (North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• While awaiting restoration of AC power (RST3 = H)<br>• While awaiting restoration of RST2 (RST2 = L)<br>• While awaiting restoration of RST4 (RST4 = L) | If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, while monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued.<br>If RST3 is L, a restoration process starts according to the latest power-on/-off status. |
| RST4 | MAIN power (RELAY) | Shutdown occurs if the signal is "L." for 5 sec after RELAY is ON. or for 2 sec while the unit is ON or in Functional STB. | • Functional STB<br>• Panel ON<br>• (Areas other than North America) While the main power switch is set to OFF (M_SW_DET_B = H)<br>• While awaiting restoration of RST2 (RST2 = L)<br>• While awaiting restoration of RST4 (RST4 = L) | The SD timer starts when "RST4 = L" (power-off of devices in the functional STB system) is detected under monitoring conditions. The RST4 initialization process starts, and input monitoring, communication setting, and output-terminal setting are performed. The RST4-SD timer starts. If either "RST3 = H" or "M_SW_DET_B = H" is detected, or if a power-down or shutdown in the module microcomputer system is not generated, the unit waits for 30 mS. Then, if the SD timer continues to count for 2 sec or more, a shutdown is determined, and a shutdown process starts. A specific LED flash pattern (blue LED, 13 times) starts. The next PON operation is valid, and the flag is cleared upon the next power-on.<br>If RST4 is H, a restoration process starts according to the latest power-on/-off status. |

## Fan and temperature sensor

### ● Circuit configuration




### ● Specifications for port monitoring

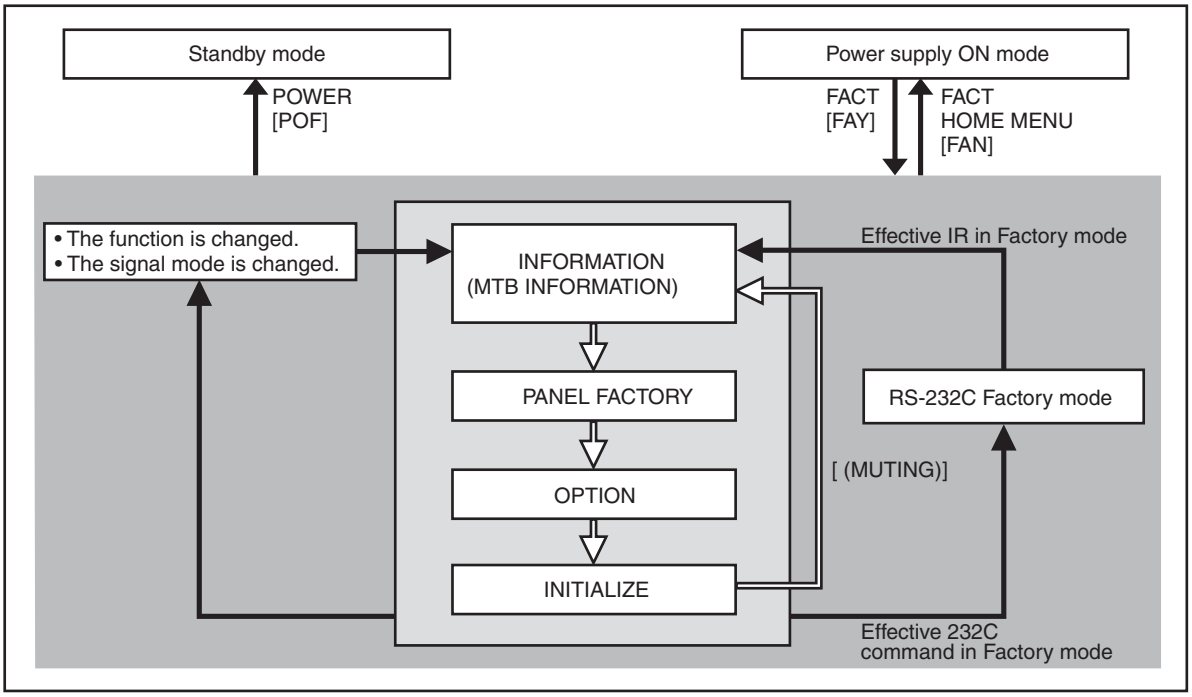
| Port Name | SD/PD Indication | Active | Monitoring conditions | Operation |
|---|---|---|---|---|
| FAN_NG1 | FAN1 | Shutdown occurs when the signal is "H."<br>1 S ∗ 3 times | RST4 = H and FAN_ON1 = H (Monitoring starts 3 sec after the above conditions are established.) | If FAN_NG1 (for details on detection logic, see "File of fan-control specifications") is detected (established) under the monitoring conditions, a shutdown process starts. A specific LED flash pattern (blue LED, 10 times) starts.<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| TEMP2 | High temperature at MTB | Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected.<br>1 S ∗ 3 times | RST4 = H<br>(Monitoring starts 1 sec after the above conditions are established.) | If any values equal to or greater than minimum to require a shutdown are detected (established) under the monitoring conditions, a warning indication will be displayed for 30 sec, after which a shutdown process starts. A specific LED flash pattern (blue LED, 11 times) starts.<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| TMP_NG | High temperature in the drive circuits | Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected.<br>200 mS ∗ 5 times (average) | Digital video RST2 = H | If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, a warning indication will be displayed for 30 sec, after which a shutdown process starts. The main microcomputer orders a specific LED flash pattern (blue LED, 4 times).<br>The next PON operation is valid, and the flag is cleared upon the next power-on. |
| | Low temperature in the drive circuits | | | If any values equal to or greater than minimum to require a shutdown is detected (established) under the monitoring conditions, those changes in status will be transmitted to the main microcomputer via the UART. Upon receiving the data, the main microcomputer orders a specific LED flash pattern (blue LED, 4 times). The next PON operation is valid, and the flag is cleared upon the next power-on. |

# 6. SERVICE FACTORY MODE

## 6.1 OUTLINE OF THE SERVICE FACTORY MODE

Operations during Service Factory mode are described here.

### 6.1.1 SERVICE FACTORY MODE TRANSITION CHART




### 6.1.2 HOW TO ENTER/EXIT SERVICE FACTORY MODE

**■ How to enter Service Factory Mode**

By using a PDP service remote control)

- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands )

- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

**■ How to exit Service Factory Mode**

By using a PDP service remote control)

- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)

- Issue [FAN].

**■ How to enter Service Factory Mode by Using the supplied Remote Control Unit**

- Same as previous model. Please refer to the technical document (Service Know-how).

## 6.1.3 FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

### ■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the “FAY” command is received) :

| Function | Remarks |
|---|---|
| 2-Screen Operation | Input function set on the main side is selected. |
| FREEZE | |
| Auto size, Side Mask | It is not performed during Factory mode. |
| ORBITER, Mask control | Central value operation (ORBITER) |
| Sleep Timer | Cancel the operation. |
| Room light sensor | Turn off the detecting operation excepting Regular A, D model (Setting data will be retained.) |
| Blue LED dimmer | Turn off the operation (Setting data will be retained.) |
| Power control | Turn off the operation (Setting data will be retained.) |
| Image position | Central value operation |

### ■ User data

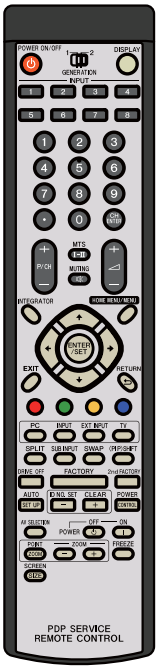
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size). Are reset to the default values (data stored in memory will be retained). Screen size will be retained.

## 6.1.4 REMOTE CONTROL CODE IN SERVICE FACTORY MODE

| Remote Control Keys | Basic Functions | Remarks |
|---|---|---|
| MUTING | Switching the main items. | Shifting to the next main item (top). |
| ⬇ (DOWN) | Switching the subtitled items. | Shifting downward to the next subtitiled item. |
| ⬆ (UP) | Switching the subtitled items. | Shifting upward to the next upper layer. |
| ⬅ (LEFT) | Decreasing the adjustment value. | Decreasing the adjustment value. |
| ➡ (RIGHT) | Increasing the adjustment value. | Increasing the adjustment value. |
| ENTER/SET | Switching the layers. | Shifting downward or upward to the next lower or upper layer. |
| INPUT | Selecting INPUT. | Shifting the INPUT to the next function. |
| INPUTxx | Selecting INPUT. | Switching the INPUT to xx. (xx=1 to 6 etc) |
| CH+/P+ | Increasing the channel number. | |
| CH-/P- | Decreasing the channel number. | |
| Numeric Keys | Function: TV | Function: TV (previously selected channel number is selected) |
| POWER | Power OFF. | Turning the power off. |
| FACTORY | Factory OFF (Factory mode) | In Factory mode, turning Factory mode off. |
| | Factory ON (Non-Factory mode). | In Non-Factory mode, turn Fuctory mode on. |
| HOME MENU | Menu ON. | In Factory mode, turn Factory mode off. |
| VOLUME+ | Volume UP. | Increasing 10 the adjustment value. (PANEL FACTORY) |
| VOLUME- | Volume DOWN. | Decreasing 10 the adjustment value. (PANEL FACTORY) |
| DRIVE OFF (Note1) | Drive Mode OFF. | Turning Drive mode off. |
| INTEGRATOR | INTEGRATOR MENU ON. | Enter INTEGRATOR MODE. |

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid. Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.




PDP service remote control

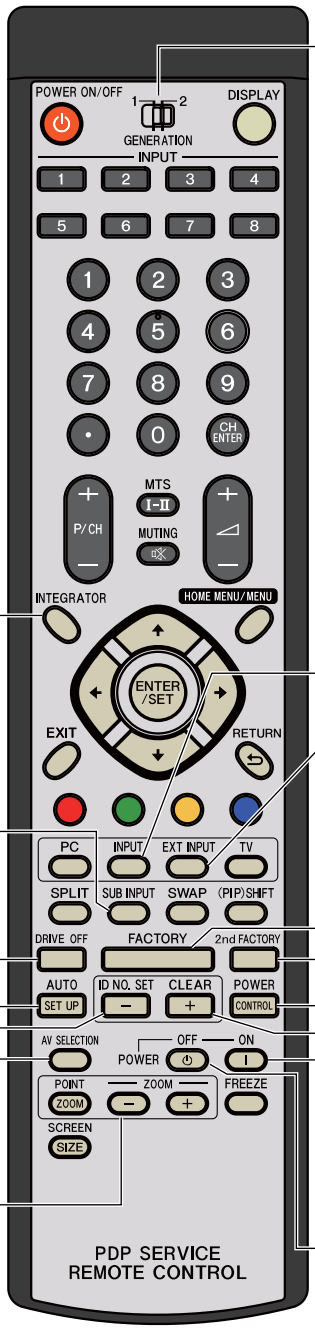
PDP-428XD
PDP-508XD

PDP-4280XD
PDP-5080XD

PDP-4280XA
PDP-5080XA

## 6.1.5 PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:




**GENERATION** switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

**INTEGRATOR**
Press this key to enter Integrator mode.

**INPUT**
Press this key to cyclically change the input source.

**EXT INPUT**
Press this key to cyclically change only the external input source.

**SUB INPUT**
Not used with this model.

**DRIVE OFF**
Press this key to turn off the panel drive.
For details on how to cancel this command, see the explanation for the DRV command.

**FACTORY**
Press this key to enter Factory mode.

**2nd FACTORY**
Not used with this model.

**AUTO SETUP**
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

**ID NO. SET**
Not used with this model.

**POWER CONTROL**
Not used with this model.

**CLEAR**
Not used with this model.

**POWER ON**
Press this key to turn on the unit.
This key cannot turn the unit off.

**AV SELECTION**
The AV SELECTION settings are changed cyclically.

**POWER OFF**
Press this key to turn off the unit.
This key cannot turn the unit on.

**POINT ZOOM**
Not used with this model.

**ZOOM +/-**
Not used with this model.

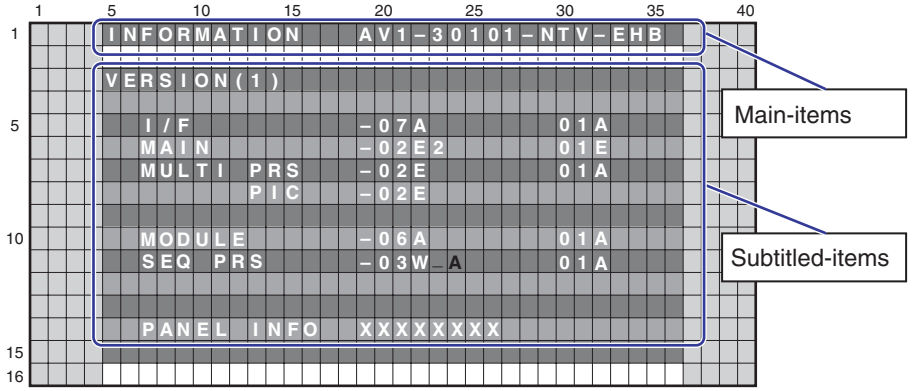
## 6.1.6 FACTORY HIERARCHICAL TABLE

| Large Item | Middle Item | Small Item | Variable / Adjustment Range | Remarks |
|---|---|---|---|---|
| **6.2.1 INFORMATION** | | | | |
| | 6.2.1.1 VERSION (1) | | | |
| | 6.2.1.2 VERSION (2) | | | |
| | 6.2.1.3 MAIN NG | CLEAR <=> | NO <=> YES | |
| | 6.2.1.4 TEMPERATURE | | | |
| | 6.2.1.5 HOUR METER | | | |
| | 6.2.1.6 HDMI SIGNAL INFO 1 | | | |
| | 6.2.1.7 HDMI SIGNAL INFO 2 | | | |
| | 6.2.1.8 VDEC SIGNAL INFO 1 | | | |
| | 6.2.1.9 VDEC SIGNAL INFO 2 | | | |
| **6.2.2 PANEL FACTORY (+)** | | | | |
| | 6.2.2.1 PANEL INFORMATION | | | |
| | 6.2.2.2 PANEL WORKS | | | |
| | 6.2.2.3 POWER DOWN | | | |
| | 6.2.2.4 SHUT DOWN | | | |
| | 6.2.2.5 PANEL-1 ADJ (+) | VOL SUS <=> | 000 to 255 | Equivalent to VSU (Setting value: Factory adjustment value) |
| | | VOL OFFSET <=> | 000 to 255 | Equivalent to VOF (Setting value: Factory adjustment value) |
| | | VOL RST P <=> | 000 to 255 | Equivalent to VRP (Setting value: Factory adjustment value) |
| | | VOL XPOFS1 <=> | 000 to 255 | Equivalent to VX1 (Setting value: Factory adjustment value) |
| | | VOL XPOFS2 <=> | 000 to 255 | Equivalent to VX2 (Setting value: Factory adjustment value) |
| | | VOL YNOFS1 <=> | 000 to 255 | Equivalent to VY1 (Setting value: Factory adjustment value) |
| | | VOL YNOFS3 <=> | 000 to 255 | Equivalent to VY3 (Setting value: Factory adjustment value) |
| | | VOL YNOFS4 <=> | 000 to 255 | Equivalent to VY4 (Setting value: Factory adjustment value) |
| | | RESET1ST_KSB <=> | 112 to 144 | Equivalent to R1K (Setting value: 125 fixed) |
| | | RESET2ND_KSB <=> | 112 to 144 | Equivalent to R2K (Setting value: 128 fixed) |
| | | YSTL_1SF_KSB <=> | 112 to 144 | Equivalent to Y1K (Setting value: 128 fixed) |
| | | YSTL_1SF_HZ <=> | 112 to 144 | Equivalent to Y1Z (Setting value: 128 fixed) |
| | | XSUS_1ST_B <=> | 112 to 144 | Equivalent to X1B (Setting value: 128 fixed) |
| | | YSUS_2ND_B <=> | 112 to 144 | Equivalent to Y2B (Setting value: 128 fixed) |
| | | XSUS_3RD_B <=> | 112 to 144 | Equivalent to X3B (Setting value: 128 fixed) |
| | | YSUS_B <=> | 112 to 144 | Equivalent to YSB (Setting value: 128 fixed) |
| | | XSUS_B <=> | 112 to 144 | Equivalent to XSB (Setting value: 128 fixed) |
| | | YSTL_KSB <=> | 112 to 144 | Equivalent to YTK (Setting value: 128 fixed) |
| | | YSTL_HZ <=> | 112 to 144 | Equivalent to YTZ (Setting value: 128 fixed) |
| | | YSTL_2SF_KSB <=> | 112 to 144 | Equivalent to Y2K (Setting value: 128 fixed) |
| | | YSTL_2SF_HZ <=> | 112 to 144 | Equivalent to Y2Z (Setting value: 128 fixed) |
| | | YSTL_FMR_KSB <=> | 112 to 144 | Equivalent to YNK (Setting value: 128 fixed) |
| | | YSTL_FMR_HZ <=> | 112 to 144 | Equivalent to YNZ (Setting value: 128 fixed) |
| | | SUS FREQ. <=> | MODE 1 to MODE 8 | Equivalent to SFR (Setting value: MODE1) |
| | 6.2.2.6 PANEL-2 ADJ (+) | R-HIGH <=> | 000 to 511 | Equivalent to PRH (Setting value: Factory adjustment value) |
| | | G-HIGH <=> | 000 to 511 | Equivalent to PGH (Setting value: Factory adjustment value) |
| | | B-HIGH <=> | 000 to 511 | Equivalent to PBH (Setting value: Factory adjustment value) |
| | | R-LOW <=> | 000 to 999 | Equivalent to PRL (Setting value: 512 fixed) |
| | | G-LOW <=> | 000 to 999 | Equivalent to PGL (Setting value: 512 fixed) |
| | | B-LOW <=> | 000 to 999 | Equivalent to PBL (Setting value: 512 fixed) |
| | | ABL <=> | 000 to 255 | Equivalent to ABL (Setting value: Factory adjustment value) |
| | 6.2.2.7 PANEL FUNCTION (+) | R-LEVEL <=> | LV-0 to LV-7 | Equivalent to RRL (Setting value: Lv-2) |
| | | G-LEVEL <=> | LV-0 to LV-7 | Equivalent to RGL (Setting value: Lv-1) |
| | | B-LEVEL <=> | LV-0 to LV-7 | Equivalent to RBL (Setting value: Lv-0) |
| | | ADDRESS L1 <=> | PH0 to PH9 | Equivalent to AP0S*- (Setting value: PH1) |
| | | ADDRESS L2 <=> | PH0 to PH9 | Equivalent to AP0S-* (Setting value: PH2) |
| | | ADDRESS L3 <=> | PH0 to PH9 | Equivalent to AP1S*- (Setting value: PH0) |
| | | ADDRESS L4 <=> | PH0 to PH9 | Equivalent to AP1S-* (Setting value: PH1) |
| | | ADDRESS U1 <=> | PH0 to PH9 | Equivalent to AP2S*- (Setting value: PH0) |
| | | ADDRESS U2 <=> | PH0 to PH9 | Equivalent to AP2S-* (Setting value: PH0) |
| | | ADDRESS U3 <=> | PH0 to PH9 | Equivalent to AP3S*- (Setting value: PH0) |
| | | ADDRESS U4 <=> | PH0 to PH9 | Equivalent to AP3S-* (Setting value: PH0) |
| | | STK MODE <=> | OFF <=> MODE1 to MODE8 <=> | Equivalent to SMK (Setting value: MODE1) |
| | 6.2.2.8 ETC. (+) | BACKUP DATA <=> | NO OPRT <=> TRANSFER or ERR | Equivalent to BCP |
| | | DIGITAL EEPROM <=> | NO OPRT <=> DELETE/REPAIR | Equivalent to FAJ/UAJ |
| | | PD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPD |
| | | SD INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CSD |
| | | HR-MTR INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CHM |
| | | PM/B1-B5 <=> | NO OPRT <=> CLEAR | Equivalent to CPM |
| | | P COUNT INFO. <=> | NO OPRT <=> CLEAR | Equivalent to CPC |
| | | MAX TEMP. <=> | NO OPRT <=> CLEAR | Equivalent to CMT |
| | 6.2.2.9 RASTER MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | RST MASK 01 <=> | | Equivalent to MKS+S51 |
| | | • • • | | • • • |
| | | RST MASK 25 <=> | | Equivalent to MKS+S75 |

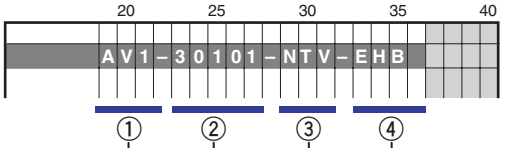
*: Setting value

| Large Item | Middle Item | Small Item | Variable / Adjustment Range | Remarks |
|---|---|---|---|---|
| **6.2.2 PANEL FACTORY (+)** | | | | |
| | 6.2.2.10 PATTERN MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKS+S00 |
| | | PTN MASK 01 <=> | | Equivalent to MKS+S01 |
| | | • • • | | • • • |
| | | PTN MASK 49 <=> | | Equivalent to MKS+S49 |
| | 6.2.2.11 COMBI MASK SETUP (+) | MASK OFF | <=> 48V <=> 50V <=> 60V <=> 60P <=> 72V <=> 75V <=> | Equivalent to MKC+S00 |
| | | CMB MASK 01 <=> | | Equivalent to MKC+S01 |
| | | • • • | | • • • |
| | | CMB MASK 17 <=> | | Equivalent to MKC+S17 |
| **6.2.3 OPTION** | | | | |
| | 6.2.3.1 EDID WRITE MODE <=> | | DISABLE <=> ENABLE | Exclusively used for production line |
| | 6.2.3.2 CH PRESET <=> | | USER <=> FACTORY | |
| | 6.2.3.3 SYNC DET (+) | | | for the technical analysis |
| **6.2.4 INITIALIZE** | | | | |
| | 6.2.4.1 SIDE MASK LEVEL (+) | SIDE MASK LEVEL <=> | | |
| | 6.2.4.2 FINAL SETUP | DATA RESET <=> | NO <=> YES | |
| | 6.2.4.3 Wide XGA AUTO <=> | | DISABLE <=> ENABLE | Exclusively used for technical analysis (details omitted) |

## 6.1.7 INDICATIONS IN SERVICE FACTORY MODE




### ■ Main-item indications




#### ① Input function

| Input Functions | OSD |
|---|---|
| AV 1 to 5 | AV 1 to 5 |
| Terrestrial Analog Wave | AIR |
| Terrestrial Digital Wave (excepting Regular A model) | ARD |
| Cable | CBL |
| Home Gallery (Step-up D model only) | HG |
| PC | PC |

#### ② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

#### ③ Color system and Signal type

| Color System and Signal Type | OSD | |
|---|---|---|
| | At Composite Input | At S-connector Input |
| NTSC | NTV | NTS |
| PAL | PLV | PLS |
| PAL M | PMV | PMS |
| PAL N | PNV | PNS |
| PAL 60 | P6V | P6S |
| SECAM | SCV | SCS |
| 4.43 NTSC | 4NV | 4NS |
| BLACK/WHITE | BWV | BWS |
| Y/CB/CR | CBR | |
| Y/PB/PR | PBR | |
| RGB | RGB | |
| Digital Video signal | DIG | |

#### ④ Option (Destination, Panel Generation, etc.)

| Options | OSD |
|---|---|
| Step-up D model | EHB |
| Regular D model | ESB |
| Regular A model | ERB |

## ② SIG Mode and Screen size (by User is displayed)

**1st and 2nd characters :** Resolution of the input signal
**3rd and 4th characters :** Refresh rate of the input signal
**5th character :** Selection of the screen size

### ■ Input signal mode table for video signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| 10 | 50 | SDTV*625i | 50.000 | 15.750 |
| | 60 | SDTV*525i | 60.000 | 15.750 |
| 20 | 50 | SDTV*625p | 50.000 | 31.500 |
| | 60 | SDTV*525p | 60.000 | 31.500 |
| 30 | 50 | HDTV*1125i | 50.000 | 33.750 |
| | 60 | HDTV*1125i | 60.000 | 33.750 |
| 40 | 50 | HDTV*750p | 50.000 | 45.000 |
| | 60 | HDTV*750p | 60.000 | 45.000 |
| 50 | 24 | HDTV*1125p | 24.000 | 27.000 |
| | 50 | HDTV*1125p | 50.000 | 56.250 |
| | 60 | HDTV*1125p | 60.000 | 67.500 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Input signal mode table for PC signals (resolutions and V frequencies)

| 1st to 4th Character | | Signal Type | Fv (Hz) | Fh (kHz) |
|---|---|---|---|---|
| C1 | 70 | 720 x 400 | 70.087 | 31.469 |
| C2 | 60 | 640 x 480 | 59.940 | 31.469 |
| C4 | 60 | 800 x 600 | 60.317 | 37.879 |
| C6 | 60 | 1280 x 720 | 60.000 | 44.800 |
| C7 | 60 | 1024 x 768 | 60.004 | 48.363 |
| C9 | 60 | 1360 x 768 | 60.015 | 47.712 |
| D6 | 60 | 1280 x 1024 | 60.000 | 64.000 |

Fv: Vertical Frequency, Fh: Horizontal Frequency

### ■ Current selection of the screen size

| 5th Character | GUI Notation | VIDEO | PC | Remarks |
|---|---|---|---|---|
| 0 | DOT BY DOT | ● (*) | – | |
| 1 | 4:3 | ● | ● | |
| 2 | FULL | ● | ● | |
| 3 | ZOOM | ● | – | |
| 4 | CINEMA | ● | – | |
| 5 | WIDE | ● | – | |
| 6 | FULL 14:9 | ● | – | |
| 7 | CINEMA 14:9 | ● | – | |

●: supported, –: unsupported

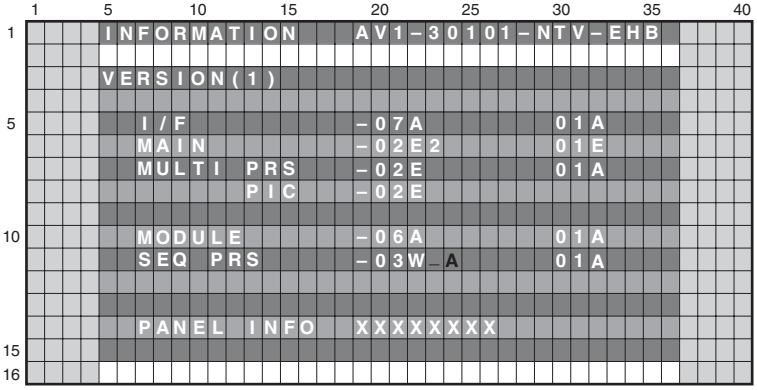
(*): It is effective only with models having the Full HD panel.

# 6.2 DETAILS OF FACTORY MENU
## 6.2.1 INFORMATION

■ **Operation items**

| No. | Function/Display | Context | RS-232C Command |
|---|---|---|---|
| 6.2.1.1 | VERSION (1) | The software versions for each microcomputer are displayed. (Common part) | QS1 |
| 6.2.1.2 | VERSION (2) | The Flash memory versions for each device are displayed. (Individual part) | QSE |
| 6.2.1.3 | MAIN NG | The Shutdown Message ID/Event Times in Main Microcomputer are displayed. | QNG |
| 6.2.1.4 | TEMPERATURE | The Temperature/FAN rotating status in Main Microcomputer are displayed. | QMT |
| 6.2.1.5 | HOUR METER | The HOUR METER/P-COUNT information are displayed. | QS3 |
| 6.2.1.6 | HDMI SIGNAL INFO 1 | The Information of HDMI information files are displayed. | – |
| 6.2.1.7 | HDMI SIGNAL INFO 2 | | |
| 6.2.1.8 | VDEC SIGNAL INFO 1 | Display the Signal Information on VDEC. | – |
| 6.2.1.9 | VDEC SIGNAL INFO 2 | | |

### 6.2.1.1 VERSION (1)

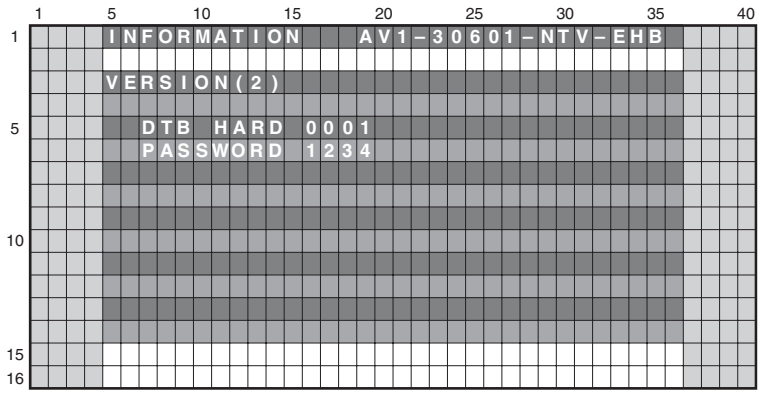



| Microcomputer | Item Name | Display Example (Execution program block) | Display Example (Boot block) |
|---|---|---|---|
| I/F microcomputer | I/F | -07A | 01A |
| Main microcomputer | MAIN | -02E2 | 01E |
| Multi processor | MULTI PRS | -02E | 01A |
| Multi processor | MULTI PIC | -02E | |
| Module microcomputer | MODULE | -06A | 01A |
| Sequence processor | SEQ PRS | -03W_A | 01A |

**Note:** In the 29-32 rows, the Boot version information on each device is displayed.
In the 19-24 rows, the version of the execution program is displayed.

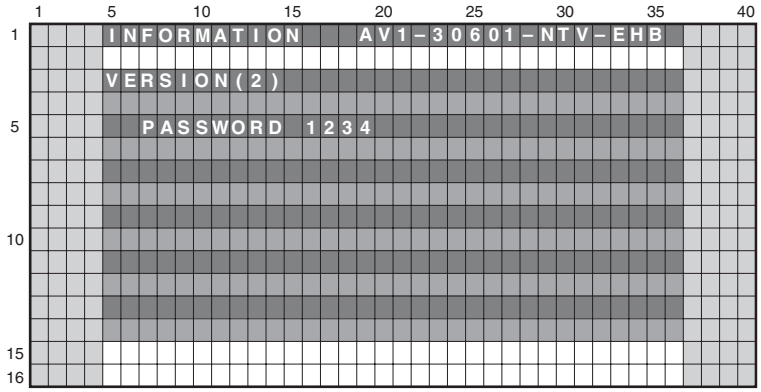
• **PANEL INFO:** It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "9.3.1. QS1 (PANEL STATUS)."

## 6.2.1.2 VERSION (2)




**Step-up D / Regular D**

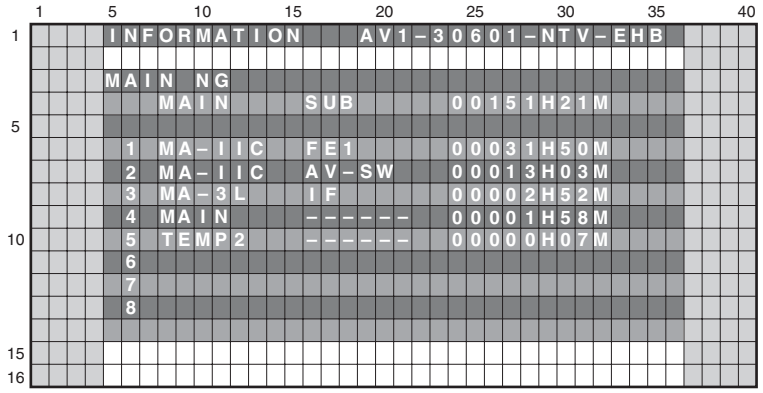
| Meaning | Item Name | Display Example |
|---|---|---|
| DTV Hardware Version | DTV HARD | 0001 |
| User Password | PASSWORD | 1234 |




**Regular A**

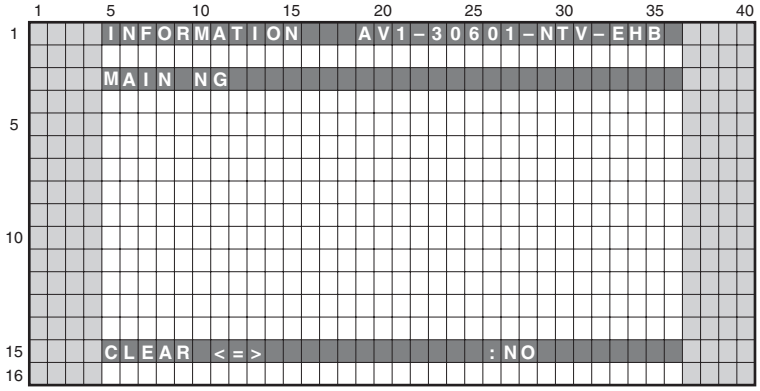
| Meaning | Item Name | Display Example |
|---|---|---|
| User Password | PASSWORD | 1234 |

## 6.2.1.3 MAIN NG




**MTB side's Shutdown NG information**

| OSD: MAIN | OSD: SUB | Cause of Shutdown |
|---|---|---|
| AUDIO | ---- | Short-circuit of the speaker terminal or failure of audio amplifier. |
| MODULE | ---- | Failure of communication to Module microcomputer. |
| MA-3L | | 3-wire Serial Communication of Main microcomputer. |
| | IF | Communication failure of IF microcomputer |
| | MULTI | Multi Processor communication failure |
| MA-IIC | | IIC Communication failure of Main microcomputer |
| | FE1 | Analog Tuner 1 |
| | MSPMAP | MSP/MAP |
| | AV-SW | AV Switch |
| | RGB-SW | RGB Switch |
| | VDEC | VDEC |
| | SDRAM | VDEC-SDRAM |
| | ADC | AD/PLL |
| | HDMI | HDMI |
| | DEMOD | COFDM error |
| MAIN | | Communication failure of Main microcomputer |
| FAN | FAN1 | Fan stopped |
| | FAN2 | Fan stopped (Only with models having the Full HD panel) |
| TEMP2 | | Abnormally high temperature at MTB. |
| DTUNER | | Failure of Digital Tuner |
| | PS/RST | Failure to DTV Starting |
| | D-ANT | Abnormally in the anntenna power supply of DTV tuner |
| RST-MA | M-DCDC | Abnormally in RST2 of MTB. (power decrease of DC-DC converter) |
| | RELAY | Relay Power Supply |
| MA-EEP | | IIC communication line between EEPROM and MAIN |

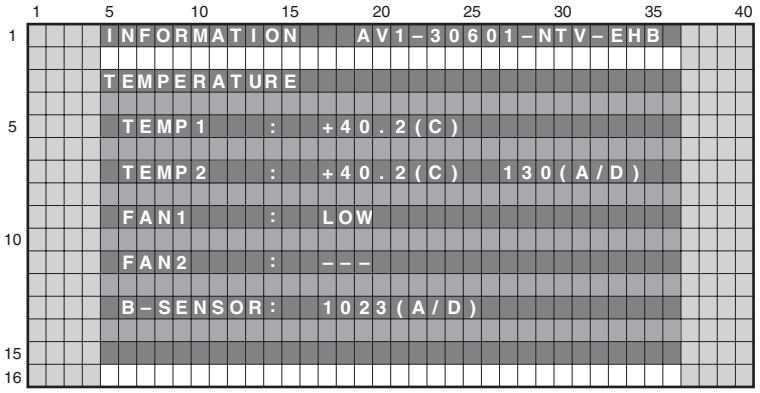



**Operation:**

Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, clear process will begin.

## 6.2.1.4 TEMPERATURE

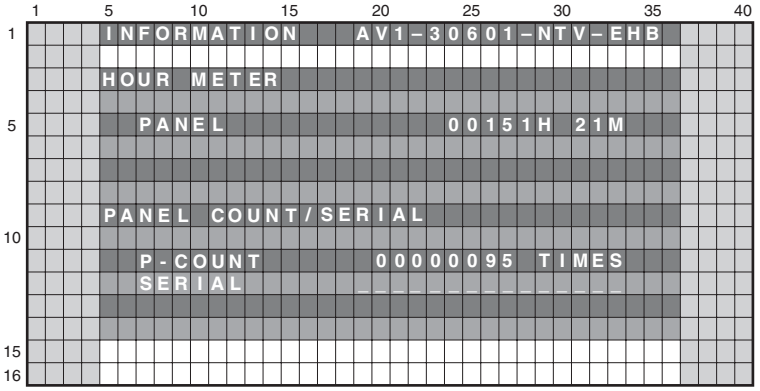
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.




**• Display/Meaning**

TEMP1 : The temperature of the sensor on the panel side is displayed by the centigrade.
TEMP2 : The temperature conversion display is done with 10 bit the A/D input value of IF uCOM 90 pin (AN4). It is displayed by both the centigrade (C) and 8 bit A/D value.
(Remark:When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.)
FAN1 : The value of the FAN rotating state is displayed.
STOP: stopped, LOW: slow speed, HIGH: high speed.
FAN2 : The value of the rotation state of FAN is displayed.
During a rotation of FAN, 8bit D/A value output from 2 pin (DA0) of IF uCOM is displayed.
It is displayed with OFF during a stop (only for the FHD model).
B-SENSOR : The value that indicated the degree of brightness input into an Room light sensor is displayed.
AD value when the output of the Room light sensor was input into 89 pin (AN5) of IF uCOM is displayed.
However, the Regular A, D model is not displayed.

## 6.2.1.5 HOUR METER

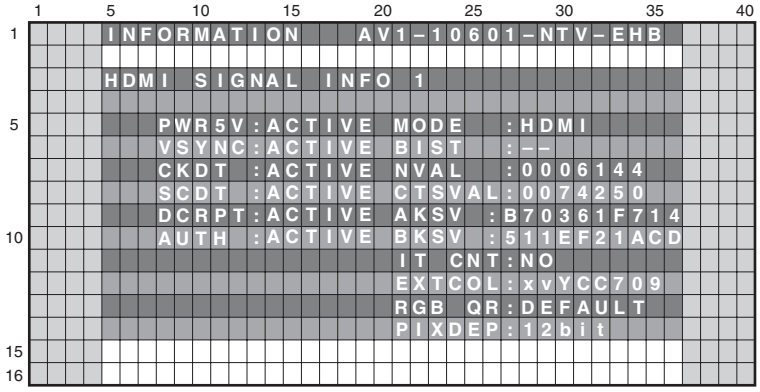



**• Display/Meaning**

| Meaning | Item Name | Display Example | Corresponding RS-232C Command |
|---|---|---|---|
| HOUR METER (PANEL) | PANEL | 00151H 21M | QS3 |
| POWER ON COUNTER | P-COUNT | 00000095 TIMES | QS3 |
| SYSTEM SERIAL | SERIAL | | QS3 |

**Note:** The PANEL-side's HOUR METER/P-COUNT acquires information from the PANEL-side.

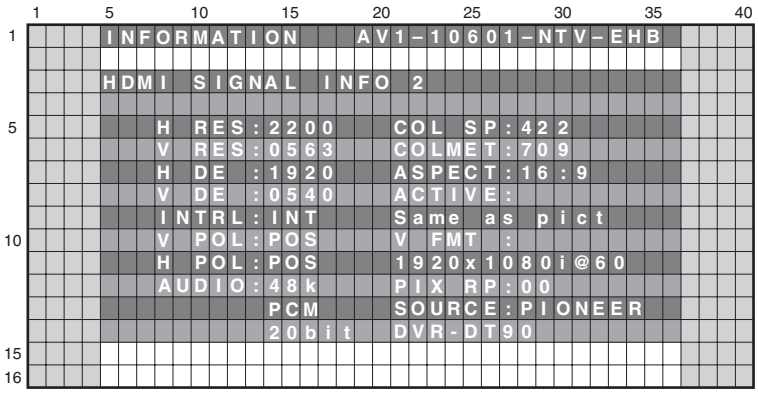
## 6.2.1.6 HDMI SIGNAL INFO 1




**Displays the input signal information of HDMI terminal**

| Item | Meaning |
|---|---|
| PWR5V | +5 V power detection (18 pin of HDMI terminal) |
| VSYNC | VSYNC detection |
| CKDT | Clock detection |
| SCDT | SYNC detection |
| DCRPT | HDCP decryption status |
| AUTHEN | HDCP authentication status |
| MODE | HDMI mode status |
| BIST | ---- |
| NVAL | N value |
| CTSVAL | CTS value |
| AKSV | Shadow AKSV value |
| BKSV | Shadow BKSV value |
| IT CNT | IT content (AVI info) |
| EXTCOL | Extension calorimetry (AVI info) |
| RGV QR | RGB range (AVI info) |
| PIXDEP | Number of pixel/bit |

## 6.2.1.7 HDMI SIGNAL INFO 2




**Displays input signal status of HDMI terminal**

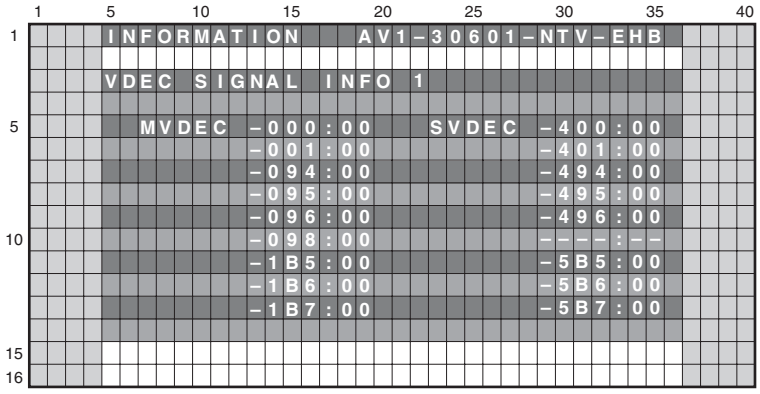
| Display Item | Meaning |
|---|---|
| H RES | Number of horizontal pixels (decimal) |
| V RES | Number of vertical lines (decimal) |
| H DE | Number of effectively horizontal pixels (decimal) |
| V DE | Number of effectively vertical lines (decimal) |
| INTRL | Interlace (=INT) or progressive (=PRG) |
| V POL | VSYNC polarity |
| H POL | HSYNC polarity |
| AUDIO (first line) | Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1 |
| AUDIO (second line) | PCM (PCM) or No PCM (=no PCM) |
| AUDIO (third line) | Quantization bit |
| COL SP | Color space (AVI Info) (422 or 444 or RGB) *2 |
| COLMET | Calorimetry (AVI Info) (SD: 601, HD:709) *2 |
| ASPECT | Aspect (AVI Info) |
| ACTIVE | Video active format (AVI Info) |
| V FMT | Video identification code (AVI Info) |
| PIX RP | Pixel repeat value for 2880 dot |
| SOURCE (first line) | Vendor name of the emission device |
| SOURCE (second line) | Model name of the emission device |

*1: Please confirm whether to be displayed here when the sound is not emitted.
*2: There is a possibility of not suitable for the state of the source equipment when the color is amusing.

**Display of HDMI FACTORY and correspondence of resolution**
Please confirm the following 5 items when the picture doesn't come out.

| Input Signal | FACTORY Display | | | | |
|---|---|---|---|---|---|
| | H RES | V RES | H DE | V DE | V FMT |
| 480i (525i) @ 60 | 858 | 262 or 263 | 720 | 240 | 720x480i @ 60 |
| 480p (525p) @ 60 | 858 | 525 | 720 | 480 | 720x480p @60 |
| 1080i (1125i) @ 60 | 2200 | 562 or 563 | 1920 | 540 | 1920x1080i @ 60 |
| 720p (750p) @ 60 | 1650 | 750 | 1280 | 720 | 1280x720p @ 60 |
| 1080p (1125p) @ 60 | 2200 | 1125 | 1920 | 1080 | 1920x1080p @ 60 |
| 576i (625i) @ 50 | 864 | 312 or 313 | 720 | 288 | 720x576i @50 |
| 576p (625p) @ 50 | 864 | 625 | 720 | 576 | 720x576p @ 50 |
| 1080i (1125i) @ 50 | 2640 | 562 or 563 | 1920 | 540 | 1920x1080i @ 50 |
| 720p (750p) @ 50 | 1980 | 750 | 1280 | 720 | 1280x720p @ 50 |
| 1080p (1125p) @ 50 | 2640 | 1125 | 1920 | 1080 | 1920x1080p @50 |
| 1080p (1125p) @ 24 | 2750 | 1125 | 1920 | 1080 | 1920x1080p @ 24 |

## 6.2.1.8 VDEC SIGNAL INFO 1

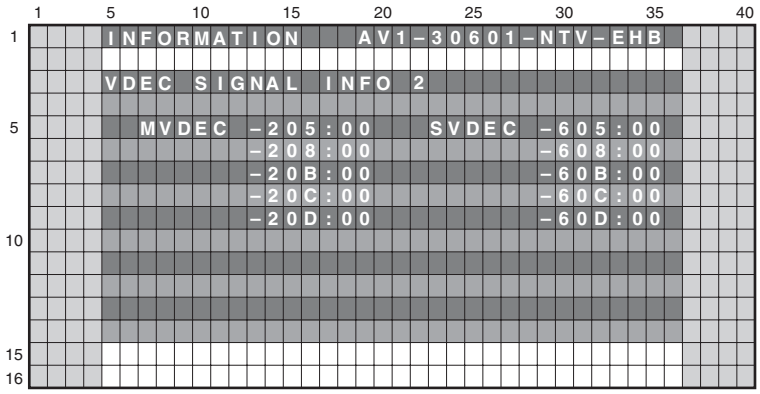



**Displays signal status that is input to VDEC.**

| Device | Sub Address (Main screen) | Sub Address (Sub screen) | Meaning |
|---|---|---|---|
| VDEC | 000h | 400h | Line system distinction result |
| | 001h | 401h | VTR distinction result |
| | 094h | 494h | Slot number |
| | 095h | 495h | Color system distinction result |
| | 096h | 496h | ACC coefficient |
| | 098h | --- | 3D YC flag |
| | 1B5h | 5B5h | MV detection 1 |
| | 1B6h | 5B6h | MV detection 2 |
| | 1B7h | 5B7h | MV detection 3 |

**Note:** The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

## 6.2.1.9 VDEC SIGNAL INFO 2




**Displays signal status that is input to VDEC.**

| Device | Sub Address (Main screen) | Sub Address (Sub screen) | Meaning |
|---|---|---|---|
| VDEC | 205h | 605h | CC detection 1 |
| | 208h | 608h | CC detection 2 |
| | 20Bh | 60Bh | CC-CRI detection |
| | 20Ch | 60Ch | XDS content advisor 0 |
| | 20Dh | 60Dh | XDS content advisor 1 |

**Note:** The SVDEC data display in the Regular A, D model, but the value is not settled because the multi-screen display function is not used.

## 6.2.2 PANEL FACTORY (+)

### ■ Operation Items

This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

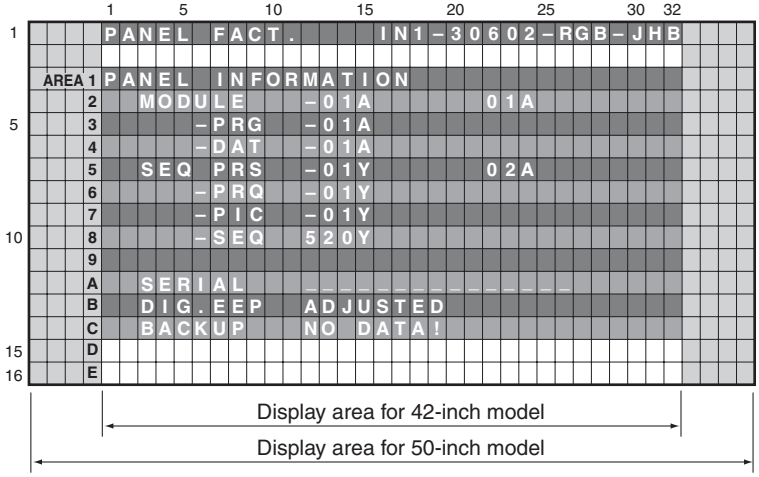
| No. | Indication | Description of functions |
|---|---|---|
| 6.2.2.1 | PANEL INFORMATION | Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. |
| 6.2.2.2 | PANEL WORKS | Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed. |
| 6.2.2.3 | POWER DOWN | The power-down history is displayed, with the hour-meter values that indicate the hour values when power-downs occurred. |
| 6.2.2.4 | SHUT DOWN | The shutdown history is displayed, with the hour-meter values that indicate the hour values when shutdowns occurred. |
| 6.2.2.5 | PANEL-1 ADJ (+) | Settings of the driving pulse timing and driving voltage can be performed. |
| 6.2.2.6 | PANEL-2 ADJ (+) | White balance and ABL (power consumption) for the panel can be set. |
| 6.2.2.7 | PANEL FUNCTION (+) | The level for correction of panel degradation can be set. |
| 6.2.2.8 | ETC. (+) | Copying of backup data and clearance of various data can be performed. |
| 6.2.2.9 | RASTER MASK SETUP (+) | The mask indication (RASTER) can be set and indicated. |
| 6.2.2.10 | PATTERN MASK SETUP (+) | The mask indication (PATTERN) can be set and indicated. |
| 6.2.2.11 | COMBI MASK SETUP (+) | The mask indication (COMBI) can be set and indicated. |

## ■ Details of indications in each layer

• In the following examples, GUI images for a 50-inch model are indicated. Although the display areas for the menu for 42-inch and 50-inch models are different, the items to be displayed are the same.

### 6.2.2.1 PANEL INFORMATION

• Data, such as the version of the microcomputer of the panel, product serial number, and statuses of memories for adjustment values for the main unit and for backup, are displayed. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

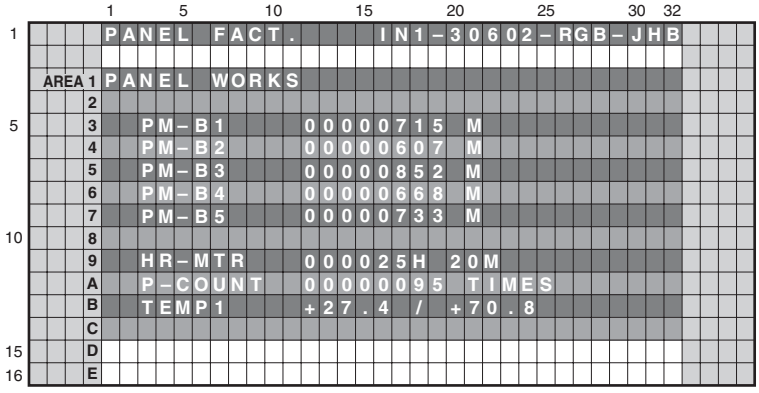
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

### ■ Display items:

MODULE : The version of data written in the Module microcomputer (IC3151) is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ-PRG : The version of data written in the Sequence LSI (IC3401) is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

### 6.2.2.2 PANEL WORKS

• Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are sent back. No other layers are nested below this layer, and there are no adjustment items.




### ■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

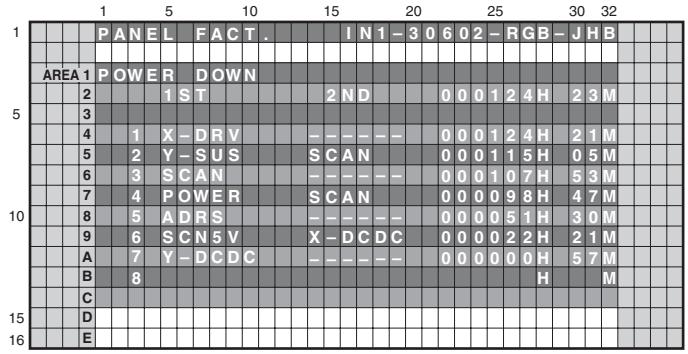
← Temperature unit is " °C (Centigrade) ".

### ■ Contents of the Display item

• PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
• HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
• P-COUNT: The accumulated power-on count is indicated.
• TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The range of temperature indication is from -50.0 to +99.9. (The temperature unit is " °C (Centigrade) ".)

### 6.2.2.3 POWER DOWN

- The power-down history is displayed. The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. IN1-30602-RGB-JHB
AREA 1 POWER DOWN
1ST 2ND 000124H 23M
1 X-DRV ------ 000124H 21M
2 Y-SUS SCAN 000115H 05M
3 SCAN ------ 000107H 53M
4 POWER SCAN 000098H 47M
5 ADRS ------ 000051H 30M
6 SCN5V X-DCDC 000022H 21M
7 Y-DCDC ------ 000000H 57M
8 H M

**■ Key operation**

<DOWN> : Shifting to SHUT DOWN
<UP> : Shifting to PANEL WORKS
<L/R> : Updating displayed information

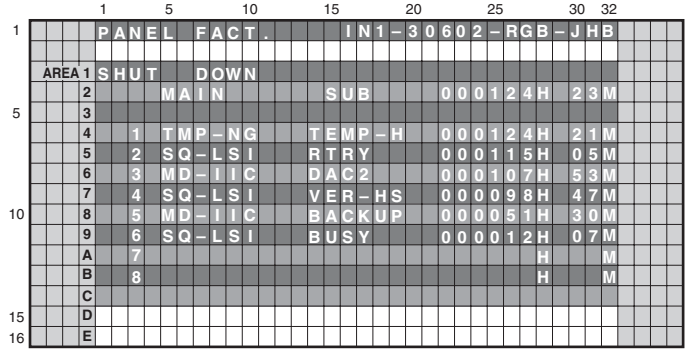
**<Causes of power-down and corresponding OSD indications>**

| Cause of power-down | OSD Indication | Cause of power-down | OSD Indication |
|---|---|---|---|
| POWER SUPPLY Unit | P-PWR | ADDRESS Assy | ADRS |
| SCAN Assy | SCAN | X DRIVE Assy | X-DRV |
| 5 V power for SCAN Assy | SCN5V | DC/DC converter for X drive | X-DCDC |
| Y DRIVE Assy | Y-DRV | X-drive SUS circuit | X-SUS |
| DC/DC converter for Y drive | Y-DCDC | Unknown | UNKNOW |
| Y-drive SUS circuit | Y-SUS | | |

* When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
* The power-down history is not recorded when the power-down occurred at the same place and same time.

### 6.2.2.4 SHUT DOWN

- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred. No other layers are nested below this layer, and there are no adjustment items.


PANEL FACT. IN1-30602-RGB-JHB
AREA 1 SHUT DOWN
MAIN SUB 000124H 23M
1 TMP-NG TEMP-H 000124H 21M
2 SQ-LSI RTRY 000115H 05M
3 MD-IIC DAC2 000107H 53M
4 SQ-LSI VER-HS 000098H 47M
5 MD-IIC BACKUP 000051H 30M
6 SQ-LSI BUSY 000012H 07M
7 H M
8 H M

**■ Key operation**

<DOWN> : Shifting to PANEL-1 ADJ (+)
<UP> : Shifting to POWER DOWN
<L/R> : Updating displayed information

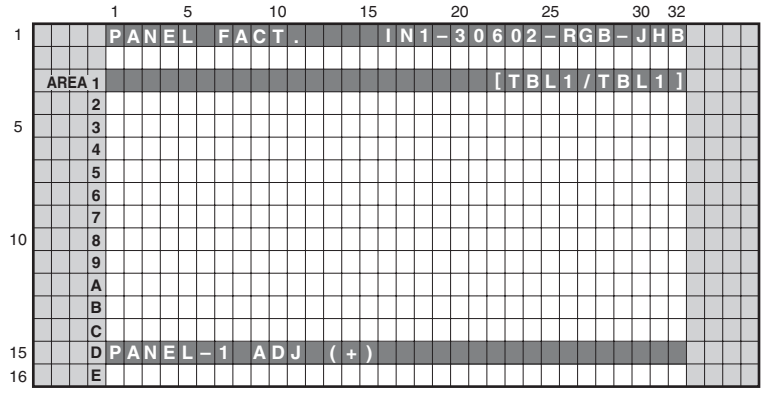
* When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.

**<Cause of shut-down and corresponding OSD Indication >**

| Cause of shut-down (MAIN) | | Cause of shut-down (SUB) | |
|---|---|---|---|
| **Item** | **OSD Indication** | **Item** | **OSD Indication** |
| Drive Processing IC | SQ_LSI | Communication Error | RTRY |
| | | Drive Stop | SQNO |
| | | Communication Busy | BUSY |
| | | Version mismatching (H/S) | VER-HS |
| | | Version mismatching (M/S) | VER-MS |
| MDU-IIC | MD-IIC | MAIN EEPROM Communication Error | EEPROM |
| | | BACKUP EEPROM Communication Error | BACKUP |
| | | DAC1 Communication Error | DAC1 |
| | | DAC2 Communication Error | DAC2 |
| Abnormally in RST2 power supply | RST2 | – | – |
| Panel temperature | TMP-NG | High temperature of the panel | TEMP-H |
| | | Low temperature of the panel | TEMP-L |

### 6.2.2.5 PANEL-1 ADJ (+)

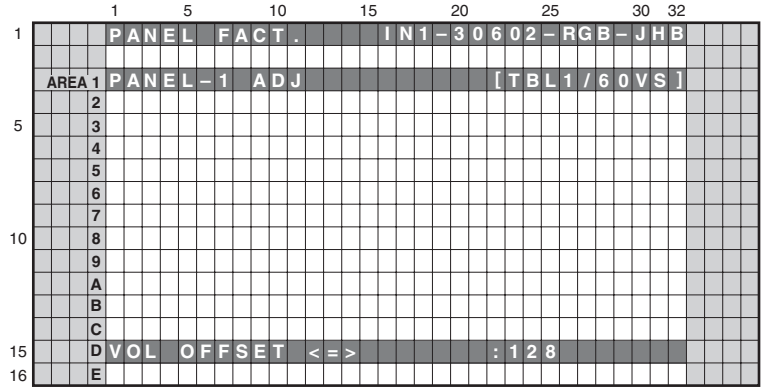
- Timing and voltage for the driving pulse are set. At third line of the screen, the WB (White Balance) table and frequency table indicating operation status are displayed, and at fifteenth line of the screen, the item for the upper nested layer (PANEL-1 ADJ [+]) is displayed. Pressing the SET key shifts the screen to the next nested layer below for item selection.




**■ Key operation**

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer

- When the screen is shifted to the next nested layer below, the item of the layer above is indicated at third line of the screen, and the item of the layer below is indicated at fifteenth line.
- The configuration of the menu screen is the same for any adjustment item that has lower layers.
- To confirm that the change in the SUS FREQ. setting has resulted in diminishing of AM radio interference in this layer, after changing the setting, turn the unit off then back on.

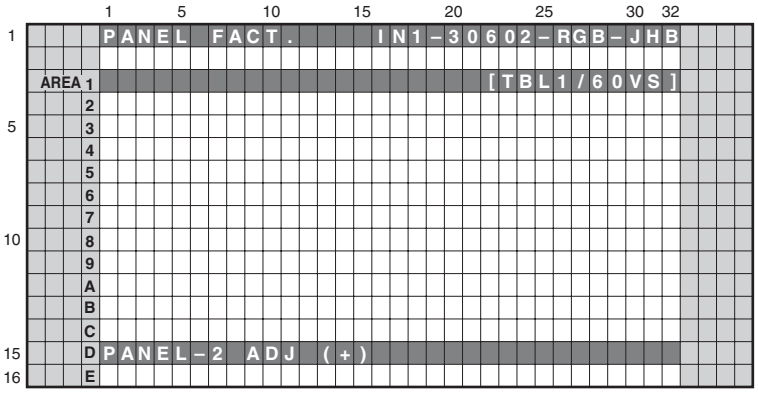



**■ Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

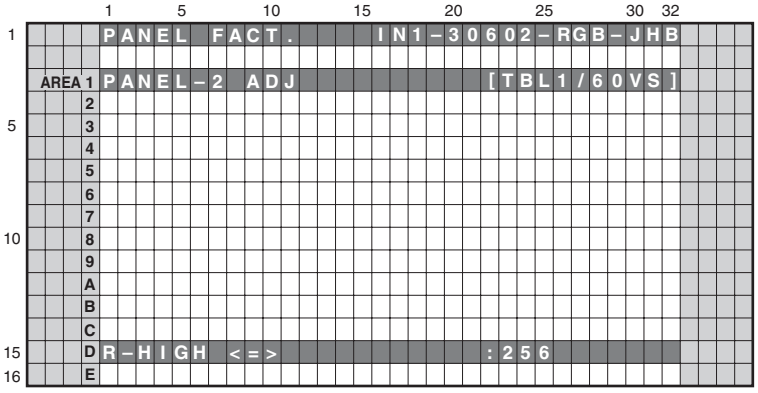
### 6.2.2.6 PANEL-2 ADJ (+)

- White balance can be adjusted by adjusting R, G, and B gain. Pressing the SET key shifts the screen to the next nested layer below for item selection.




■ **Key operation**

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer




■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

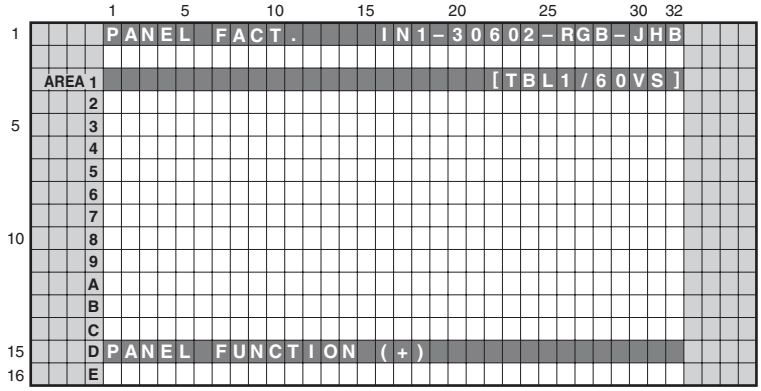
The ABL/WB adjustment values are grouped into up to four tables, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

**Drive sequence and adjustment table**

| **Sequence Name** | Video50 | Video60 | Video72 | Video75 | PC60 |
|---|---|---|---|---|---|
| **Adjustment Value Table** | TBL2 | TBL1 | TBL1 | TBL3 | TBL4 |

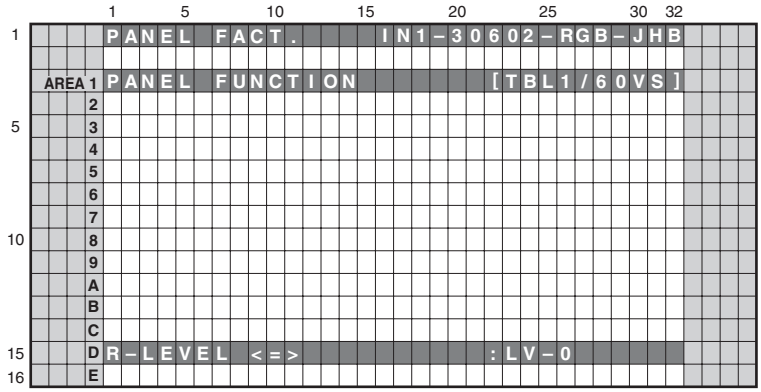
### 6.2.2.7 PANEL FUNCTION (+)

- A setting for panel degradation correction can be made. Pressing the SET key shifts the screen to the next nested layer below for item selection.




■ **Key operation**

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer

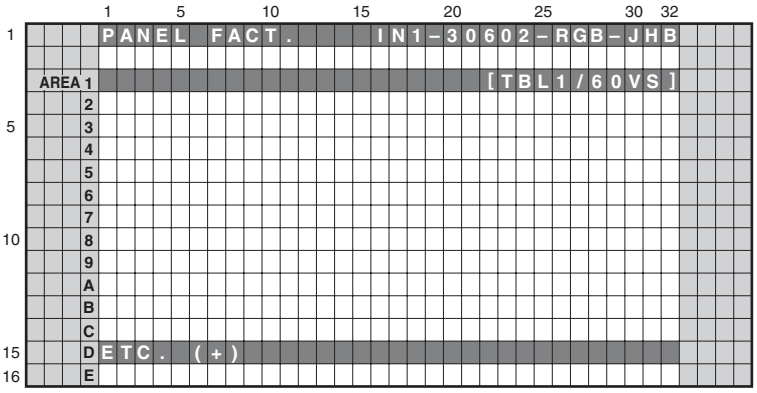



■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

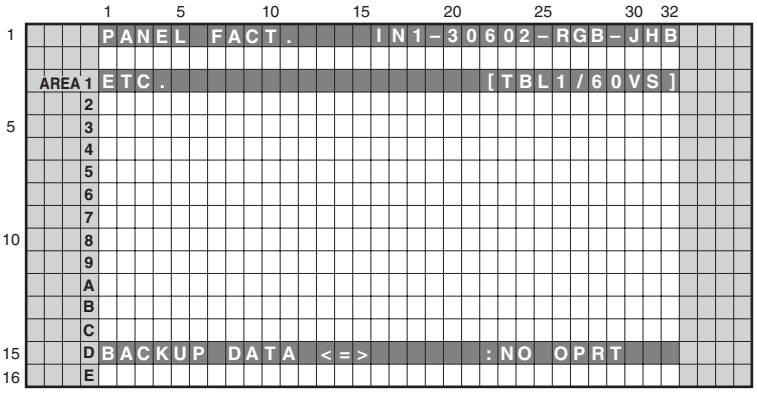
### 6.2.2.8 ETC. (+)

- The setting about the backup of panel adjusting value and various data on panel operational information can be cleared. Pressing the SET key shifts the screen to the next nested layer below for item selection.




■ **Key operation**

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer

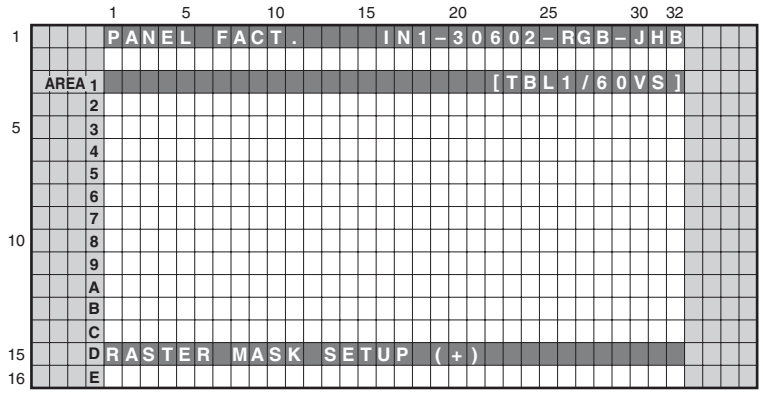



■ **Key operation**

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

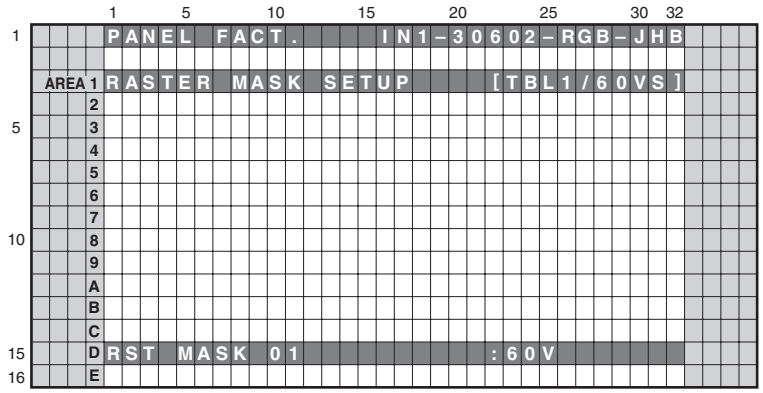
### 6.2.2.9 RASTER MASK SETUP (+)

• This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.




■ **Key operation**

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



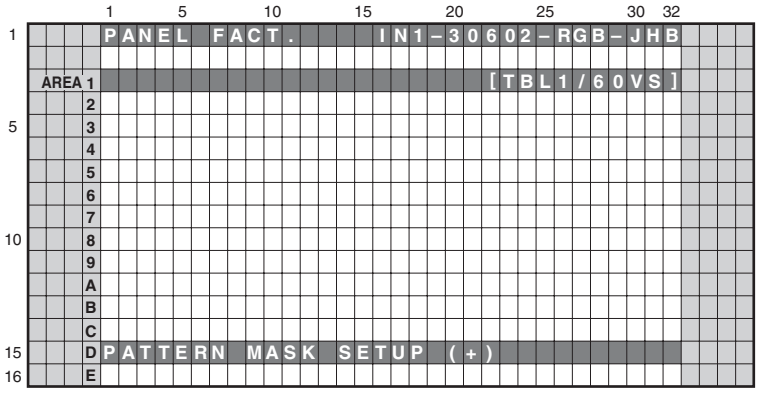

■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

• The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

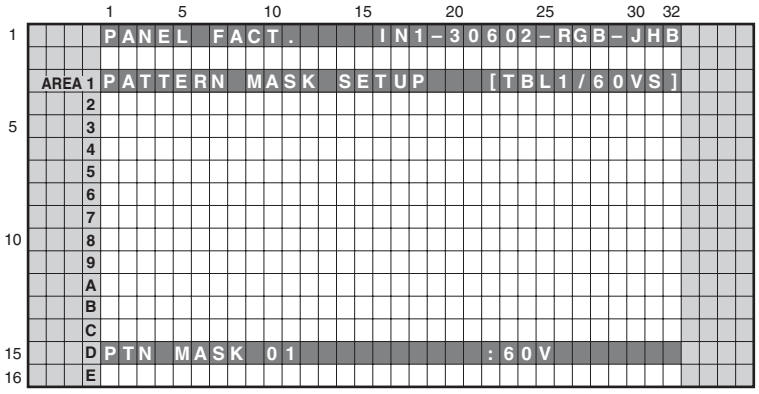
### 6.2.2.10 PATTERN MASK SETUP (+)

- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.




**■ Key operation**

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



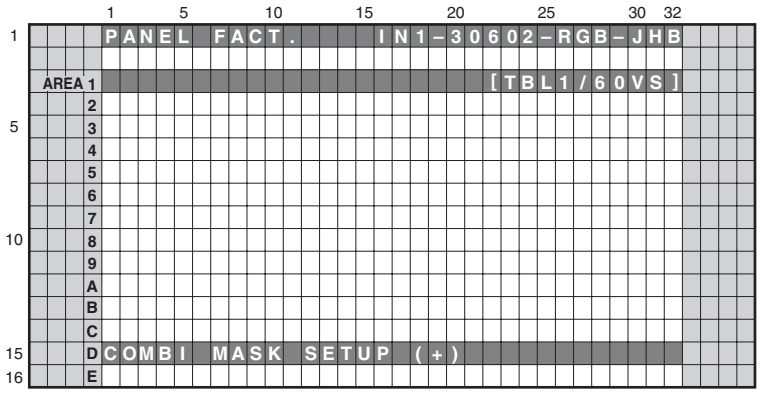

**■ Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

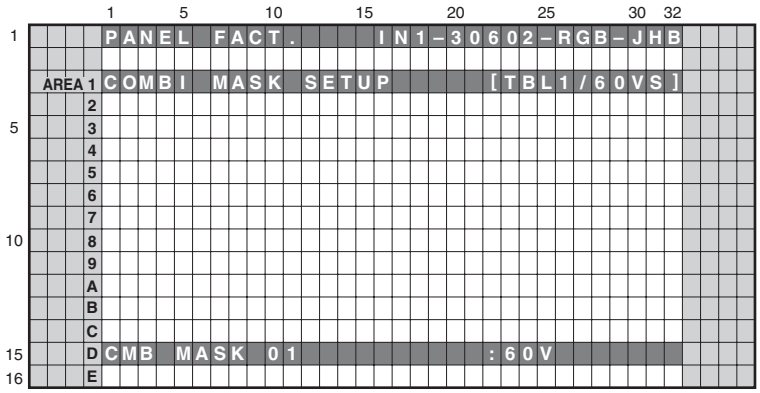
### 6.2.2.11 COMBI MASK SETUP (+)

- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the SET key shifts the screen to the next nested layer below for item selection.




**■ Key operation**

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer




**■ Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The MASK indication sequence can be changed among 48V, 50V, 60V, 72V, 75V and 60P, using the Right or Left key. The selected sequence and the ABL/WB table are retained until the mask is turned off.

## 6.2.3 OPTION

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 6.2.3.1 | EDID WRITE MODE ⇔ | DISABLE ⇔ ENABLE | ---- |
| 6.2.3.2 | CH PRESET ⇔ | USER ⇔ FACTORY | ---- |
| 6.2.3.3 | SYNC DET (+) | Exclusively used for technical analysis | ---- |

### 6.2.3.1 EDID WRITE MODE <=>

Exclusively used for production line.

### 6.2.3.2 CH PRESET <=>

Exclusively used for production line.

### 6.2.3.3 SYNC DET (+)

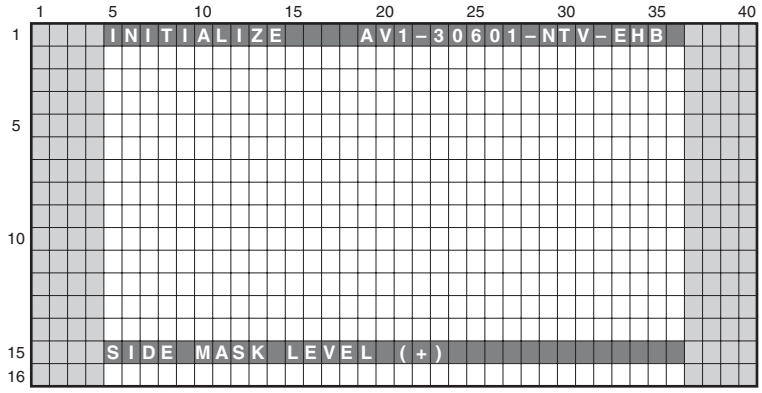
Exclusively used for technical analysis (details omitted).

## 6.2.4 INITIALIZE

**Operation item**

| No. | Function | Content | RS-232C |
|---|---|---|---|
| 6.2.4.1 | SIDE MASK LEVEL (+) | Configure the color of the side mask. | SML |
| 6.2.4.2 | FINAL SETUP (+) | Initialize flash memorys on virgin product status | FST |
| 6.2.4.3 | Wide XGA AUTO <=> | Exclusively used for technical analsyis. | ––– |

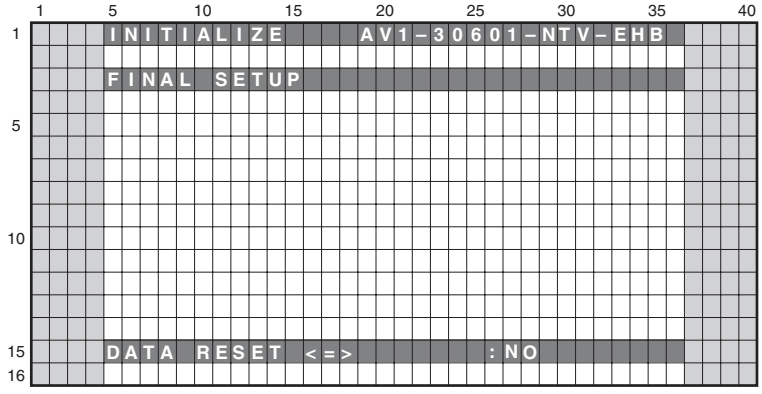
### 6.2.4.1 SIDE MASK LEVEL (+)




To configure sidemask level (To adjust the values, input signal is required).

| Display | Content | RS-232C |
|---|---|---|
| SIDE MASK LEVEL <=> | Adjust Side Mask level (Adjustable range: 000 to 255) | SML |

### 6.2.4.2 FINAL SETUP (+)




- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

**Be sure to disconnect and connect the AC cable after FINAL SETUP.**
**When replacing the MAIN Assy, the FINAL SETUP is required.**

### 6.2.4.3 Wide XGA AUTO <=>

Exclusively used for technical analsyis (details omitted).

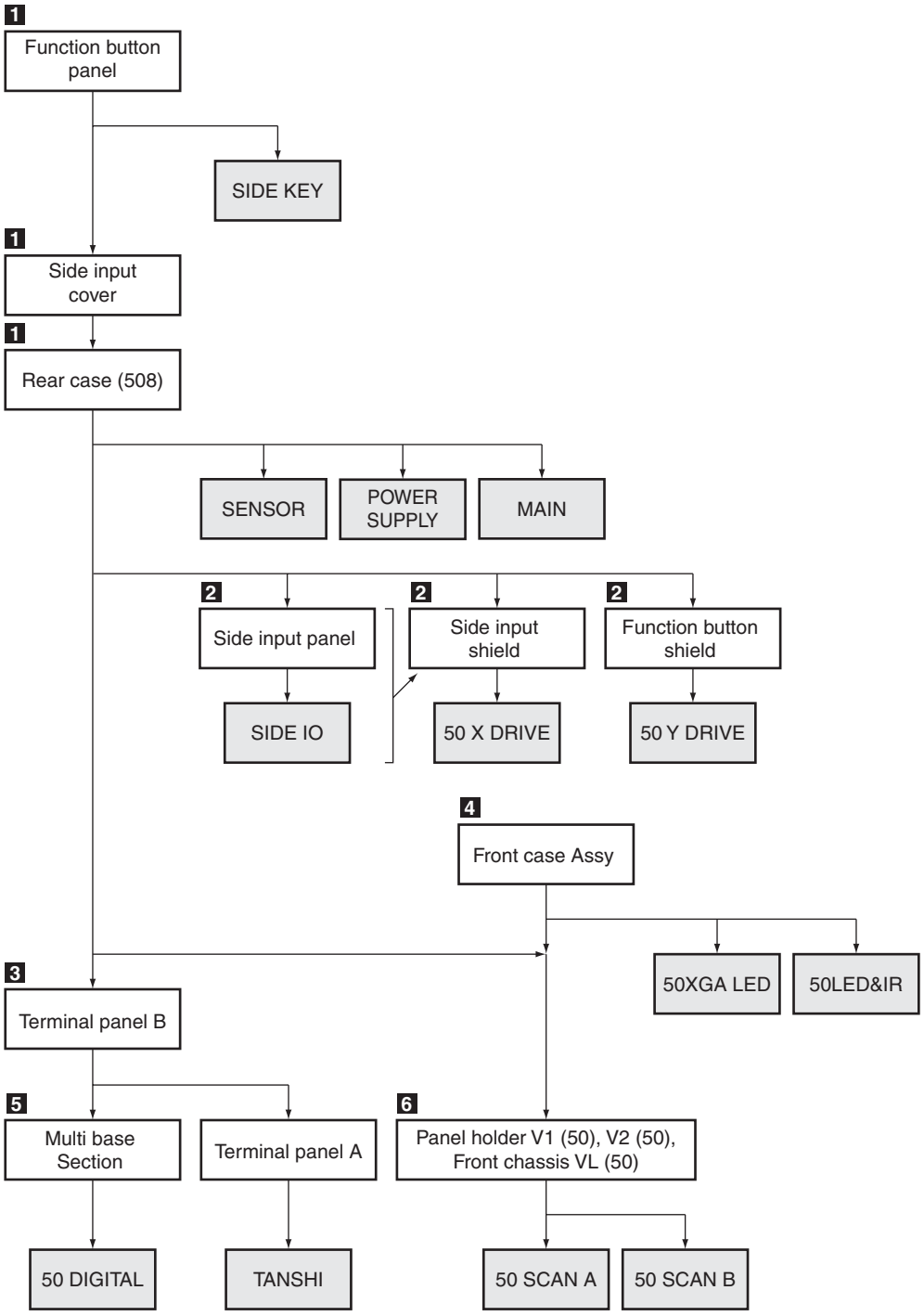
# 7. DISASSEMBLY

## 7.1 CHART OF REMOVAL ORDER FOR THE MAIN PARTS AND BOARDS

**Note:** Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

### Chart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:



# 7.2 DISASSEMBLY

## Disassembly

### 1 Rear Case (508)

● **Function button panel**

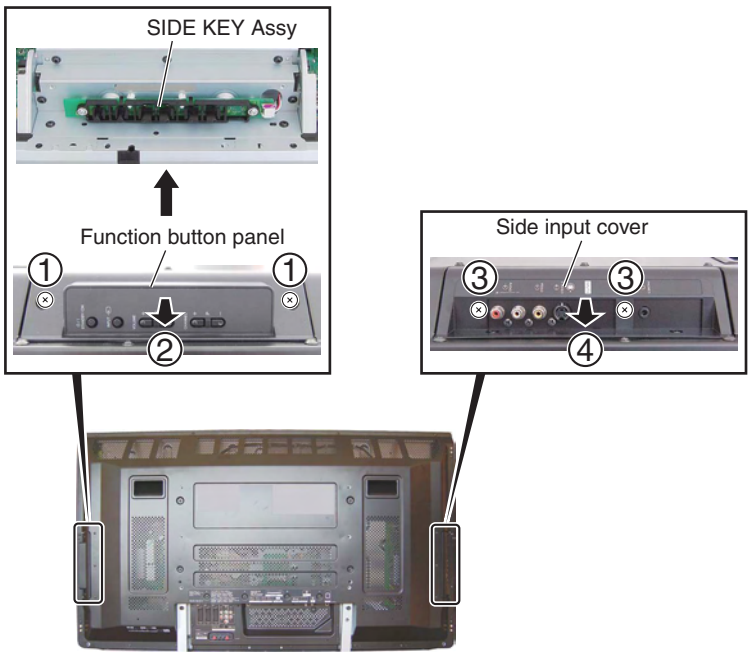
① Remove the two screws.

② Remove the function button panel.

● **Side input cover**

③ Remove the two screws.

④ Remove the side input cover.




● **Rear case (508)**

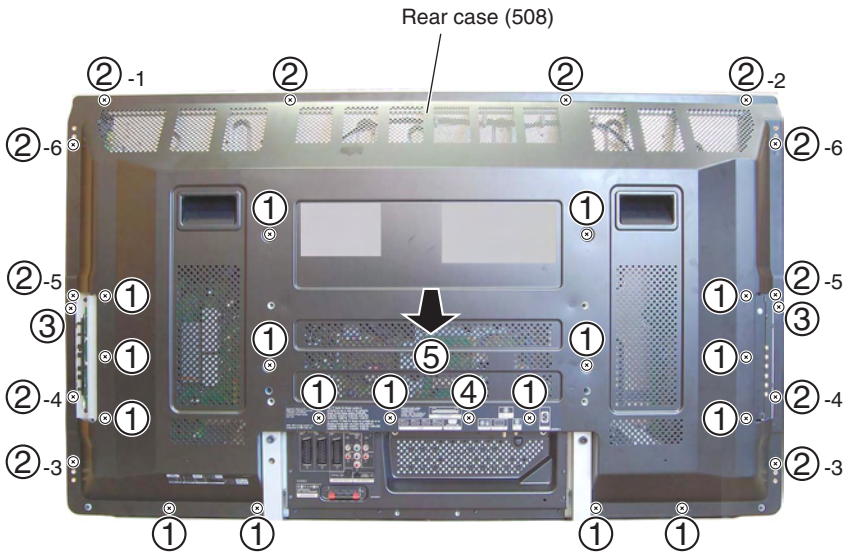
① Remove the 17 screws. (AMZ30P060FTB)

② Remove the 12 screws. (TBZ40P080FTB)

③ Remove the two screws. (ABA1332)

④ Remove the one screw. (ABA1341)

⑤ Remove the rear case (508).




**Tightening sequence for the screws when assembling**

When assembling the Rear Case (508), tighten the screws in the following sequence:
1. Tighten the screw (②-1).
2. Tighten the screw (②-2).
3. Tighten the eight screws in that order (②-3 to 6).
4. Tighten other screws.

## 2 Access to PCB Assys

### ● SIDE IO Assy

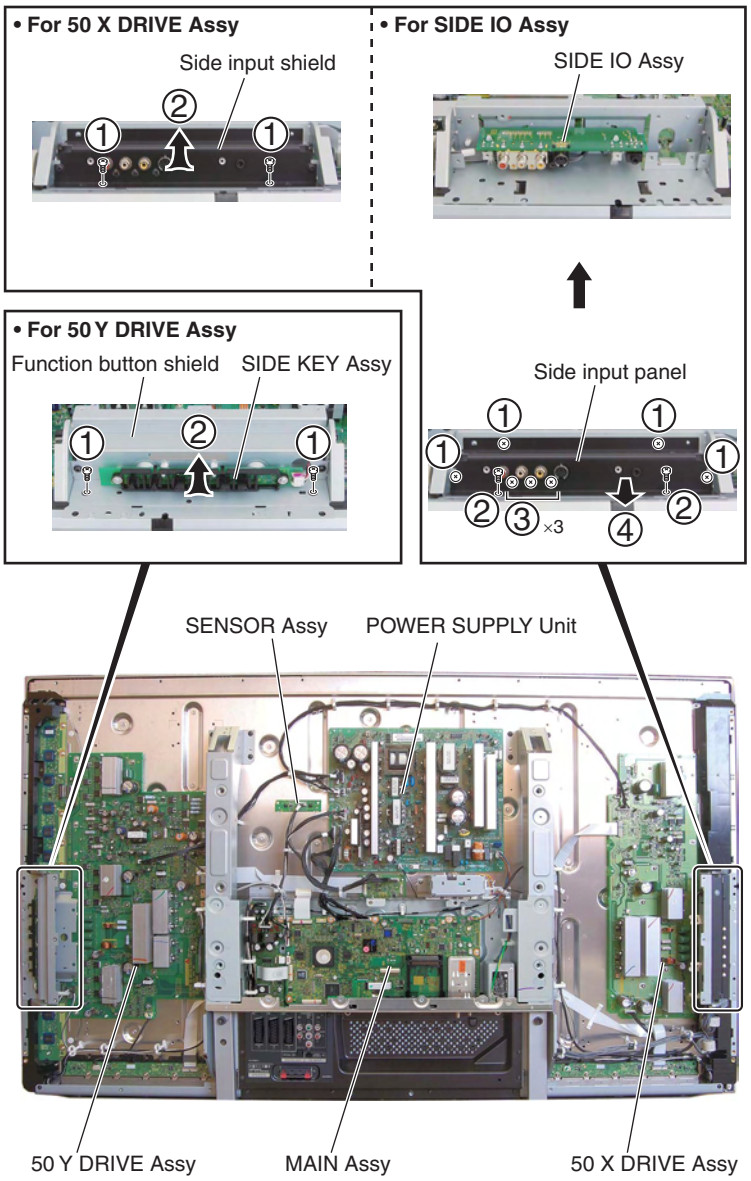
① Remove the four screws.
② Remove the two screws.
③ Remove the three screws.
④ Remove the side input panel.

### ● 50 X DRIVE Assy

① Remove the two screws.
② Remove the side input shield with PCB.
③ Diagnose the 50 X DRIVE Assy.

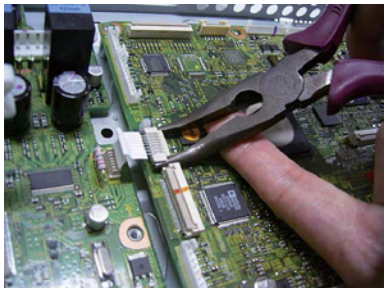
### ● 50 Y DRIVE Assy

① Remove the two screws.
② Remove the function button shield with PCB.
③ Diagnose the 50 Y DRIVE Assy.




### ■ How to remove the bridge connector connecting between the MAIN and TANSHI Assys

(1) Grip the two short edges of the connector with longnose pliers.
(2) Insert a finger between the longnose pliers and the board to protect the board and the mounted parts on the board from accidental damage by the pliers then, using your finger as a fulcrum and the pliers as a lever, pry the connector upward to remove it.

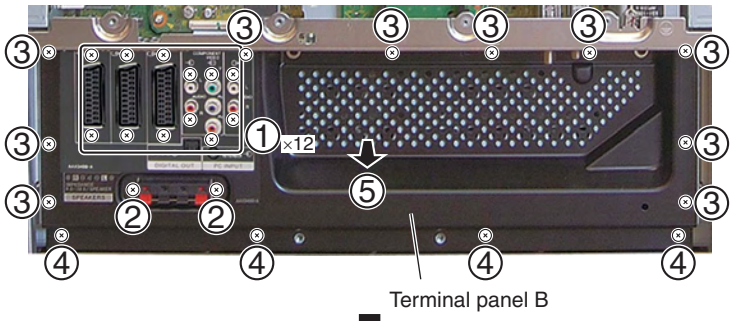


## 3 Terminal Panel B

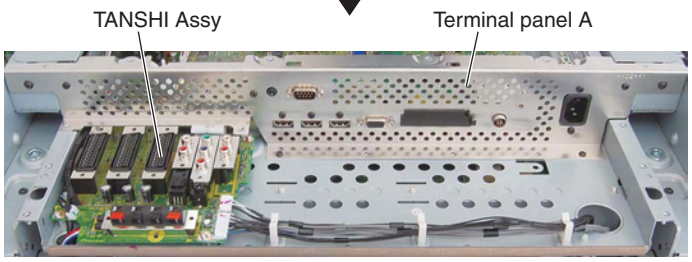
① Remove the 12 screws.
② Remove the two screws.
③ Remove the 10 screws.
④ Remove the four screws.

**Note:**
To remove the screws ④ with the unit attached to the side-speaker-type stand, remove the bolt for fixing the stand and lift the unit up a little.

⑤ Remove the terminal panel B.

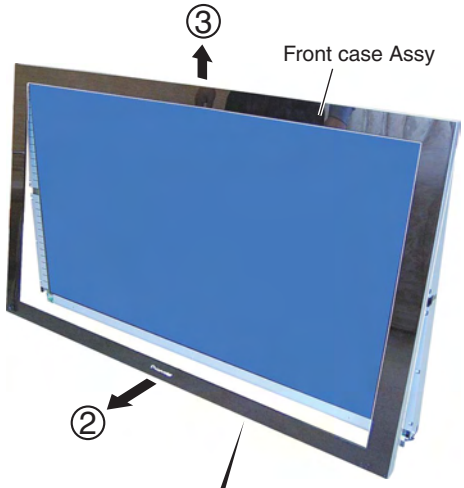


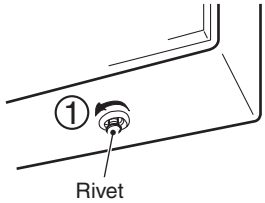

**Note:**
**The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.**



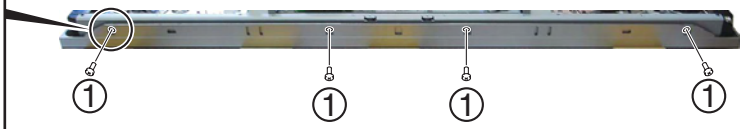

## 4 Front Case Assy

① Remove the four rivets.
② Pull the lower part of the Front case Assy toward you and out.
③ Remove the Front case Assy, by pulling it upward.



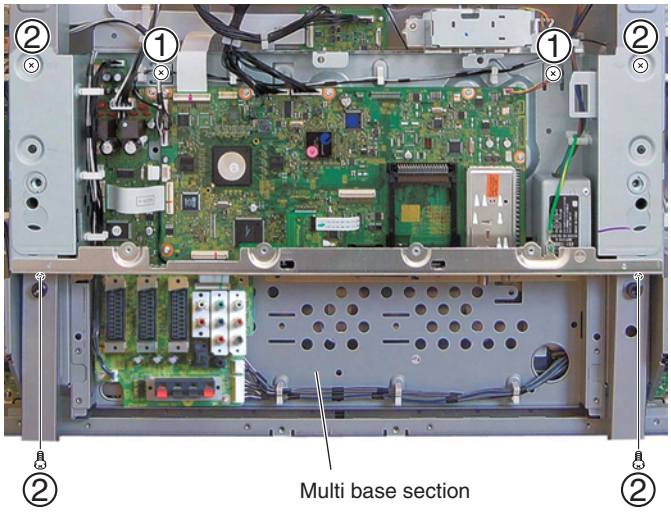

Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)



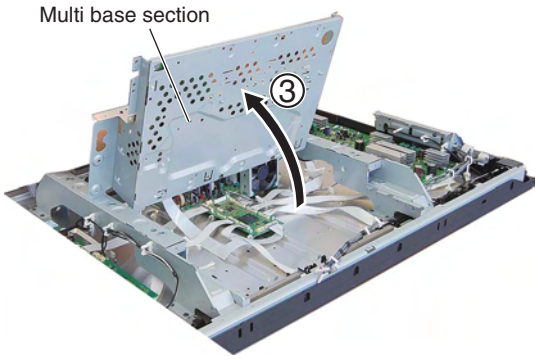
## 5 Access to 50 DIGITAL Assy

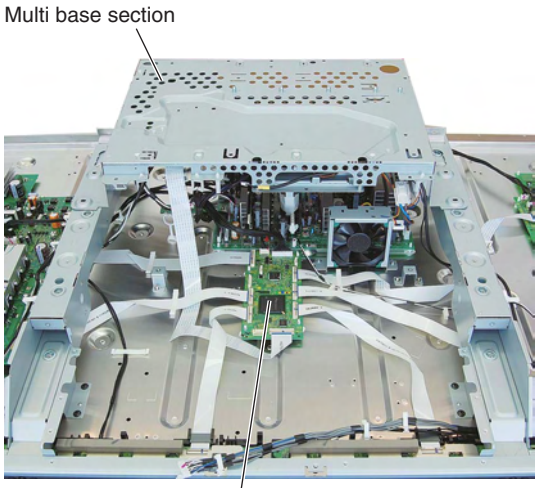
① Remove the two screws.

② Remove the four screws.




③ Lift the Multi base section to the direction of the arrow.



## 6 Exchange of SCAN IC

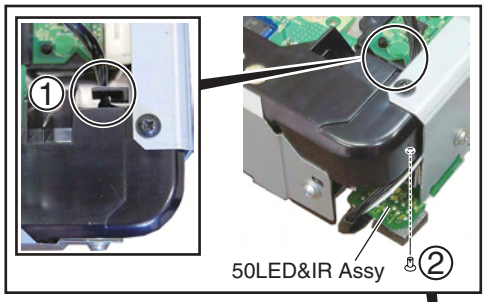
① Loosen the jumper wire.

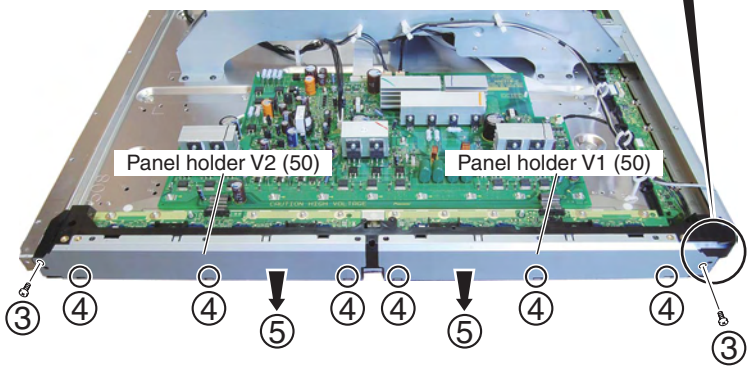
② Remove the 50LED&IR Assy by removing the one nyron rivet.

③ Remove the two screws.

④ Unhook the six hooks.

⑤ Remove the panel holders V1 (50) and V2 (50).

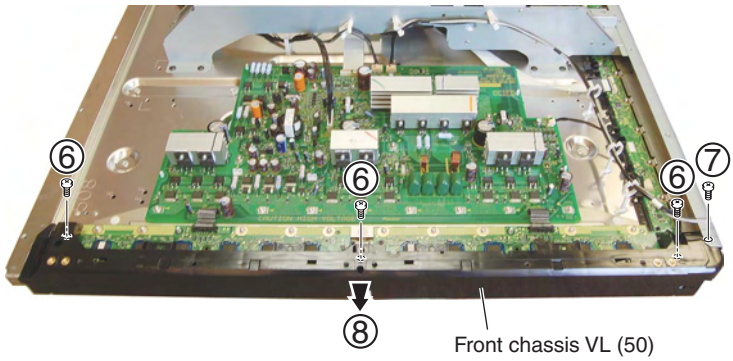


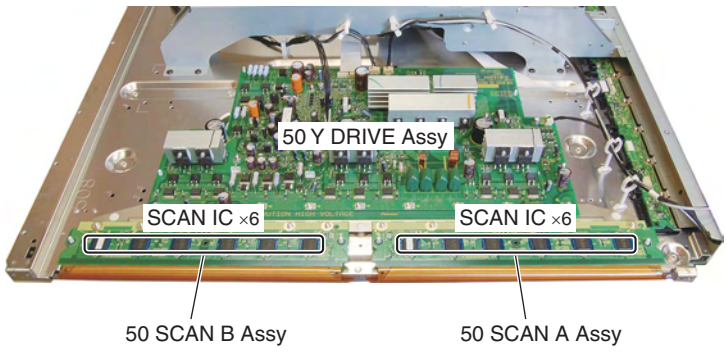

⑥ Remove the three screws.

⑦ Remove the one screw.

⑧ Remove the front chassis VL (50).




**Exchange**



# 8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

## 8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

### ■ When any of the following assemblies is replaced

| | | |
|---|---|---|
| POWER SUPPLY Unit | ➡ | Refer to “8.3 HOW TO CLEAR HISTORY DATA”. |
| DIGITAL Assy | ➡ | Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”. |
| X DRIVE Assy | ➡ | No adjustment required |
| Y DRIVE Assy | ➡ | No adjustment required |
| Service Panel Assy | ➡ | Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”. |
| MAIN Assy (∗) | ➡ | No adjustment required |
| SENSOR Assy | ➡ | Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”. |
| Other assemblies | ➡ | No adjustment required |

Note (∗): When replacing the MAIN Assy, be sure to perform the FINAL SETUP.

**Notes on replacing parts**

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

**Reason:** The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

| PCB Assy No. | Assy Name | Parts that Require Whole-Assy Replacement | | |
|---|---|---|---|---|
| | | Ref No. | Function Name | Part No. |
| AWV2461 (PDP-428XD and PDP-508XD)<br>AWV2462 (PDP-4280XD and PDP-5080XD)<br>AWV2463 (PDP-4280XA and PDP-5080XA) | MAIN Assy | IC4601 | AV switch | R2S11006FT |
| | | IC4701 | RGB switch | R2S11001FT |
| | | IC4703 | EEPROM | BR24L01AFJ-W |
| | | IC4801 | MAIN VDEC | CM0048BF |
| | | IC5001 | A/D Converter | AD9985KSTZ-110 |
| | | IC5102 | EEPROM | BR24L02FV-W |
| | | IC5103 | EEPROM | BR24L02FV-W |
| | | IC5203 | EEPROM | BR24L02FV-W |
| | | IC8204 | Flash ROM | AGC1050 |
| | | IC8301 | Flash UCOM | AGC1037 |
| | | IC8602 | Flash ROM | AGC1040 (for AWV2463) |
| | | IC8602 | Flash ROM | AGC1041 (for AWV2461, AWV2462) |
| AWV2452, AWV2447 | X DRIVE Assy | • Parts of X D-D CON BLOCK | | |
| AWV1262, AWV1260 | Y DRIVE Assy | • Parts of Y VF D-D CON BLOCK<br>• Parts of Y MAIN D-D CON BLOCK 1<br>• Parts of Y MAIN D-D CON BLOCK 2 | | |

| | |
|---|---|
| POWER SUPPLY Unit | The assembly must be replaced as a unit, and no part replacement is allowed. |
| MAIN Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| DIGITAL Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| X DRIVE Assy | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| Y DRIVE Assy | No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENTS WHEN THE DRIVE ASSYS ARE REPLACED. |
| ADDRESS Assy | No adjustment required |
| SENSOR Assy | No adjustment is required after replacement of parts other than those mentioned above. |
| TANSHI Assy | No adjustment required |

# 8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

## ■ Outline

Adjustment data are stored in the EEPROM (IC3156/4K) on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup: IC3652) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

## ■ Backed up data

- Drive voltage adjustment value
- Hour-meter count
- Pulse-meter count
- Panel white balance adjustment value
- Serial No.
- Drive waveform adjustment value
- P-ON counter value
- PD/SD histories

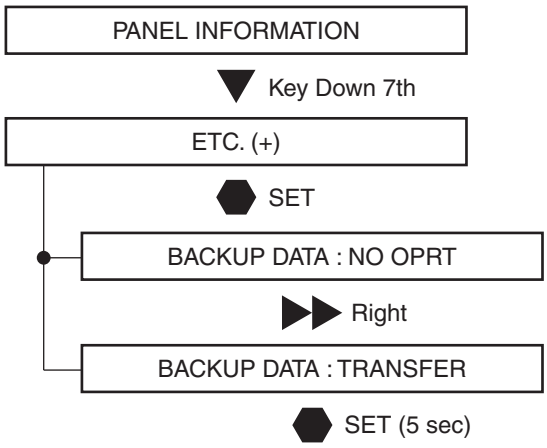
## ■ How to copy backup data

### 1. When the DIGITAL Assy is replaced with one for service (usual service)

Adjustment data can be restored by copying the data backed up in the SENSOR Assy to the EEPROM on a new DIGITAL Assy.
The EEPROM on the new DIGITAL Assy has no adjustment data, and the EEPROM for backup in the SENSOR Assy has adjustment data. After replacing the DIGITAL Assy, enter PANEL FACT. mode, display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP". Then, proceed in the following steps:

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.




③ Turn the power off.

- After the DIGITAL Assy is replaced with one for service, be sure to check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page of the PANEL FACT. mode.
- If copying of the backup data fails in the above procedure, the red LED lights, and the blue LED flashes, as a warning that no backup data were copied.
- If both the DIGITAL and SENSOR Assys are to be replaced, first replace the SENSOR Assy, turn the unit on and back off again, then replace the DIGITAL Assy.

**(2) Copying, using the RS-232C commands**

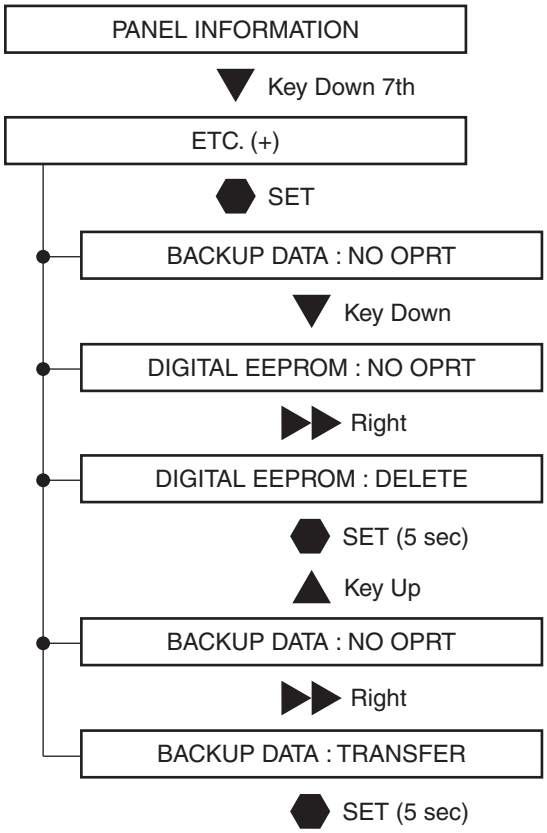
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the BCP command to transfer the data stored in the EEPROM for backup.
③ Turn the power off.

## 2. When a secondhand DIGITAL Assy that had been mounted in another product is to be reused

As adjustment data for another product are already stored in the secondhand DIGITAL Assy, first delete those data then copy the backup data stored in the EEPROM on the SENSOR Assy.

**(1) Copying, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Copy the backup data, as shown in the figure below.




③ Turn the power off.

**Note:**
If the secondhand DIGITAL Assy is mounted in the product then the unit is turned on then back off again, the data in the EEPROM on the DIGITAL Assy are copied over the EEPROM in the SENSOR Assy. Thus the backup data can never be restored. During the first power-on after the DIGITAL Assy is replaced, be sure to enter Factory mode to copy the backup data. Or, before removing the secondhand DIGITAL Assy from the original product, delete the adjustment data on it, using the Factory mode (DIGITAL EEPROM: DELETE), mount it to the product to be repaired, then copy the data from the backup EEPROM.

**(2) Copying, using the RS-232C commands**

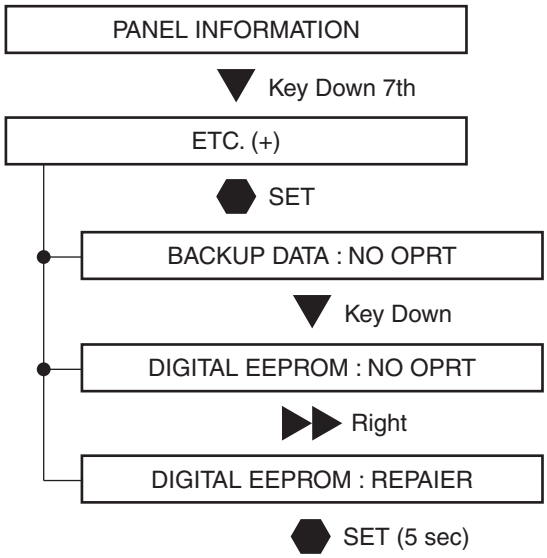
① Turn on the unit, using the remote control unit or by issuing the PON command. Then issue the FAY command.
② Issue the UAJ command to delete data stored in the EEPROM on the DIGITAL Assy.
③ Issue the BCP command to transfer the data stored in the EEPROM for backup.
④ Turn the power off.

## 3. In a case where normal backup data are not stored in the backup EEPROM because the EEPROM on the DIGITAL Assy is defective, etc., and where manually adjusted values are to be applied to the product

**Note:** In this section, it is assumed that settings for various items have been completed, using Factory menu or RS-232C commands.

**(1) Method using the Factory menu**

① Set various setting/adjustment values.
② Proceed in the following steps.




③ Turn the power off.

**Note:**
When a DIGITAL Assy with an EEPROM in which adjustment data are stored is mounted, this step is not required after manual adjustment. ("DIGITAL EEPROM: REPAIR" is not indicated.)

**(2) Method using the RS-232C commands**

Issue the FAJ command.

# 8.3 HOW TO CLEAR HISTORY DATA

## ■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up. Some of those data must be cleared after the Assys are replaced for service.

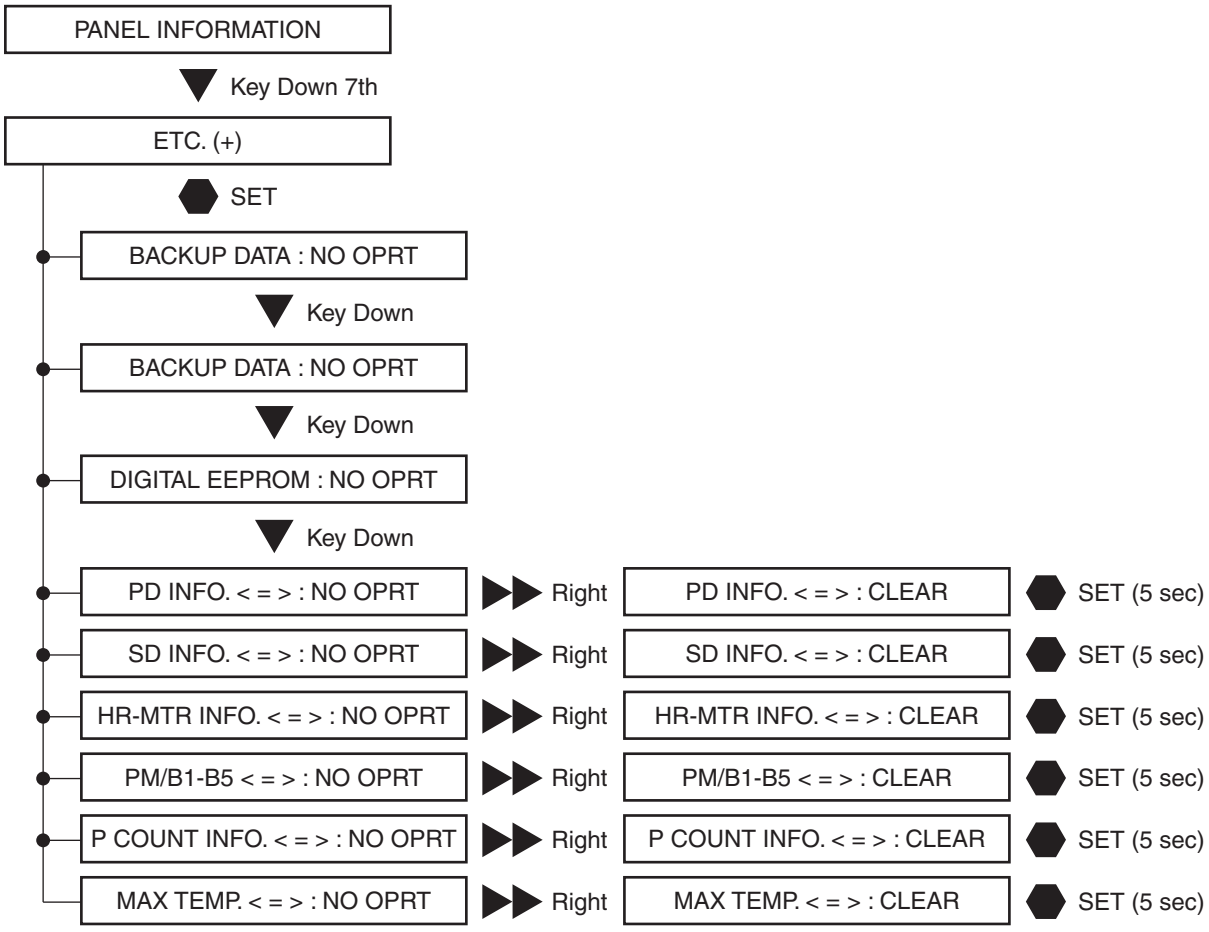
**(1) Clearance of logs, using the RS-232C commands**

| Item | Content | When the Panel is replaced | When the POWER SUPPLY Unit is replaced | When the Other parts is replaced | RS-232C Commands |
|---|---|---|---|---|---|
| Hour-meter | Accumulated power-on time | Must be cleared | No need to be cleared | No need to be cleared | CHM |
| Pulse-meter | Accumulated number of pulses emitted | Must be cleared (mandatory) | No need to be cleared | No need to be cleared | CPM |
| Shutdown history | Cause of an SD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CSD |
| Power-down history | Cause of an PD and hour-meter count | Must be cleared | No need to be cleared | No need to be cleared | CPD |
| Power-on counter | Relay-on count | No need to be cleared | Must be cleared (mandatory) | No need to be cleared | CPC |
| MAX TEMP | Historical max. temperature | Must be cleared | Must be cleared | Must be cleared | CMT |

**Notes:** • As the pulse-meter count is used for each correction function, it must be cleared when an Assy relevant to correction functions is replaced.
• When clearing logs, using the RS-232C commands, first enter Factory mode (by issuing FAY or PFY), then issue the corresponding command.

**(2) Clearance of logs, using the Factory menu**

① Plug in the AC cord, press the Power switch on the unit to set it to ON, then enter Standby mode.
② Turn on the power, using the remote control unit, then enter Panel Factory mode.
Delete various logs, as shown in the figure below.




③ Turn the power off.

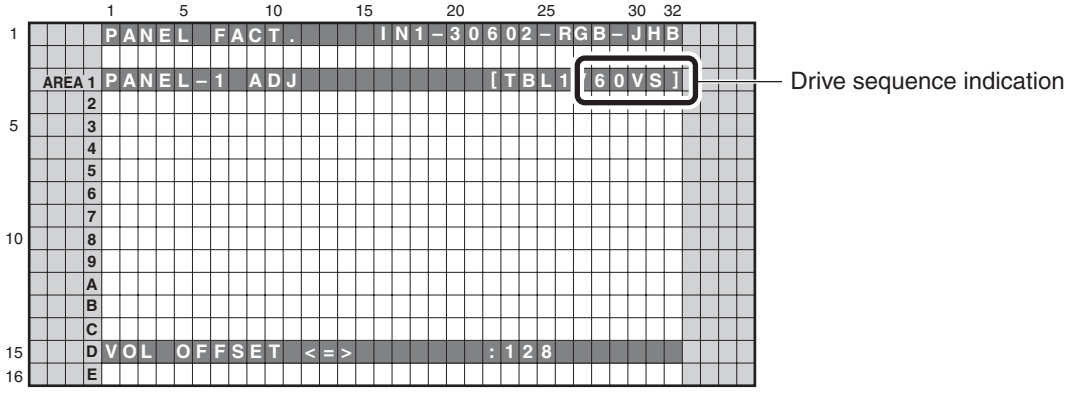
# 8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

After the panel is replaced with one for service, voltage margin adjustment is required.

### [Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
∗2: The drive sequence for 60-Hz video is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.




Example of the On-Screen display during Panel Factory mode

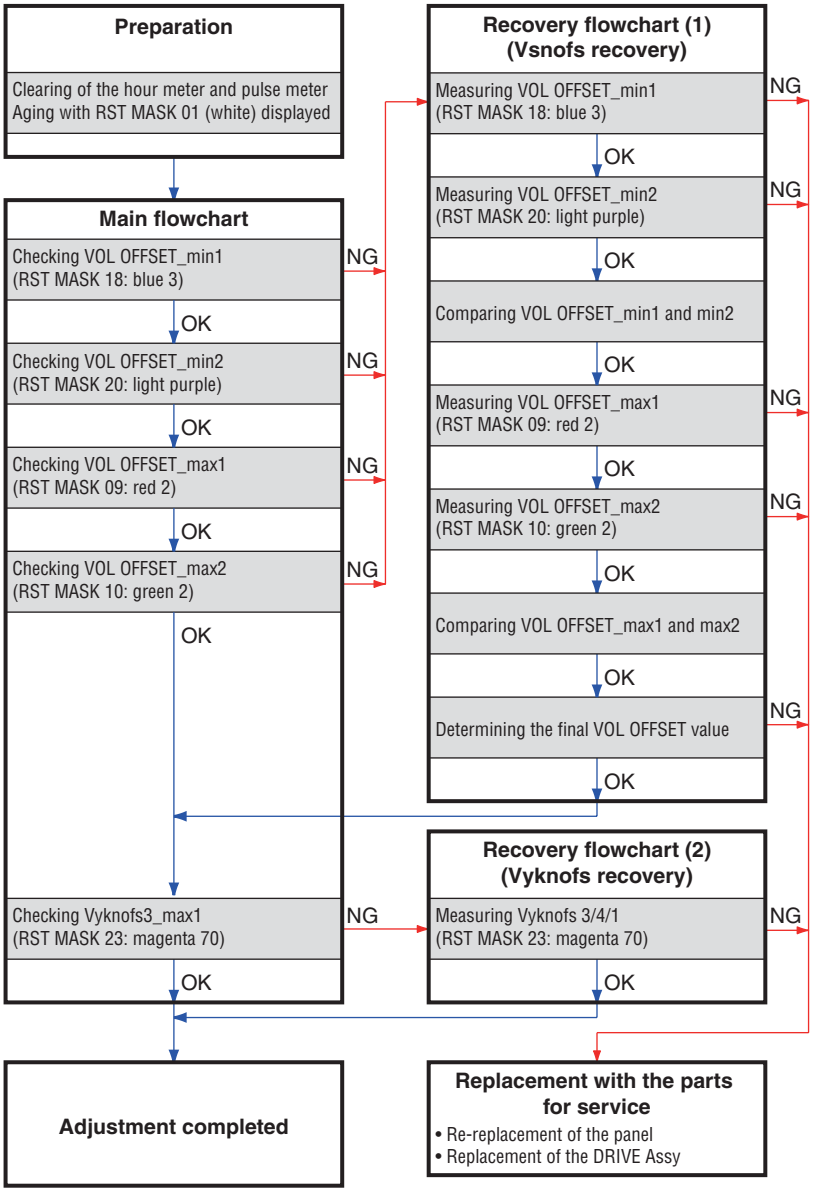
### [Supplement]

In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, and Noise is set to OFF.
In this case, "- - - - /****" (**** represents the current drive sequence) is displayed on the third line of the On-Screen display during Panel Factory mode.

If adjustment is performed using RS-232C commands, the following commands must be transmitted for preparation:
**[PAV S00]**: To set panel drive mode to Factory
**[VFQ S03]**: To set Drive Sequence to Video 60 Hz
**[WBI S01]**: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
**[PGR S00]**: To set the gamma R value to that for Factory mode
**[PGG S00]**: To set the gamma G value to that for Factory mode
**[PGB S00]**: To set the gamma B value to that for Factory mode
**[DIZ S03]**:Dither ON,L dither ON, noise OFF.

∗: If the unit is shut down during the above adjustment flow, resend the above commands from the beginning.

# Overview

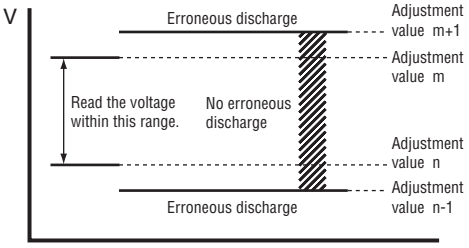



## Note on voltage calculation

When calculating the setting voltage, round off to get rid of the fractional part.

## Range of margin measuring

Read the voltage within the hysteresis (stricter value).




## Definition of limits for the voltage margins (abnormal lit/dead cells)

**Abnormal lit cells:**
- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

**Abnormal dead cells**
- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.
∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

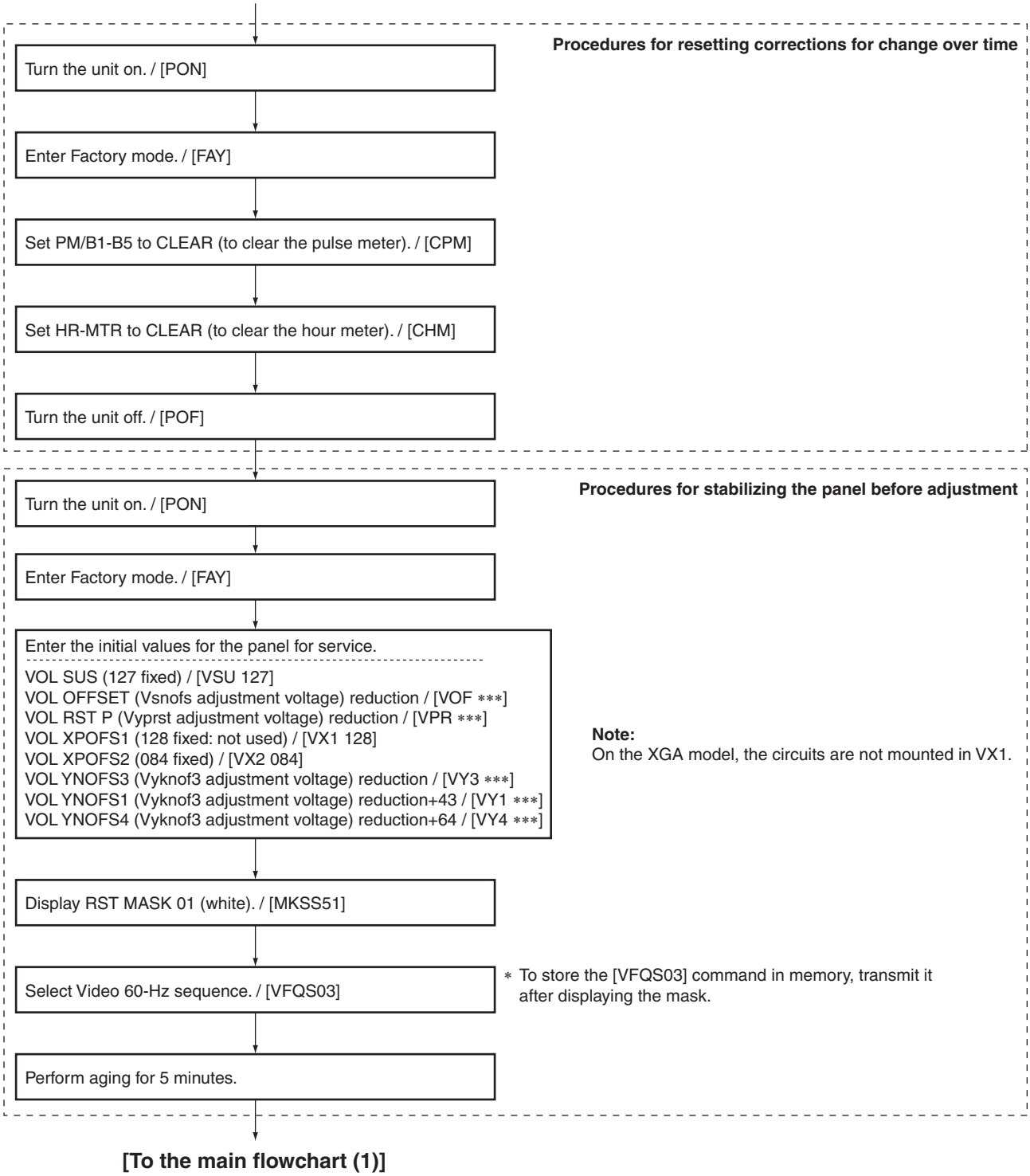
## Definition of tones for the measuring signals

WIDE-XGA signal (1365*768)/Video 60-Hz sequence/Dither: ON, L dither: ON, noise: OFF

| | |
|---|---|
| White | RST MASK 01 (R 1023 /G 1023 /B 1023) |
| Red 2 | RST MASK 09 (R 648 /G 115 /B 115) |
| Green 2 | RST MASK 10 (R 115 /G 1023 /B 115) |
| Blue 3 | RST MASK 18 (R 152 /G 152 /B 482) |
| Light purple | RST MASK 20 (R 1023 /G 648 /B 1023) |
| Magenta 70 | RST MASK 23 (R 70 /G 0 /B 70) |

## Preparation before adjustment

**[Replacement with the panel for service is completed.]**

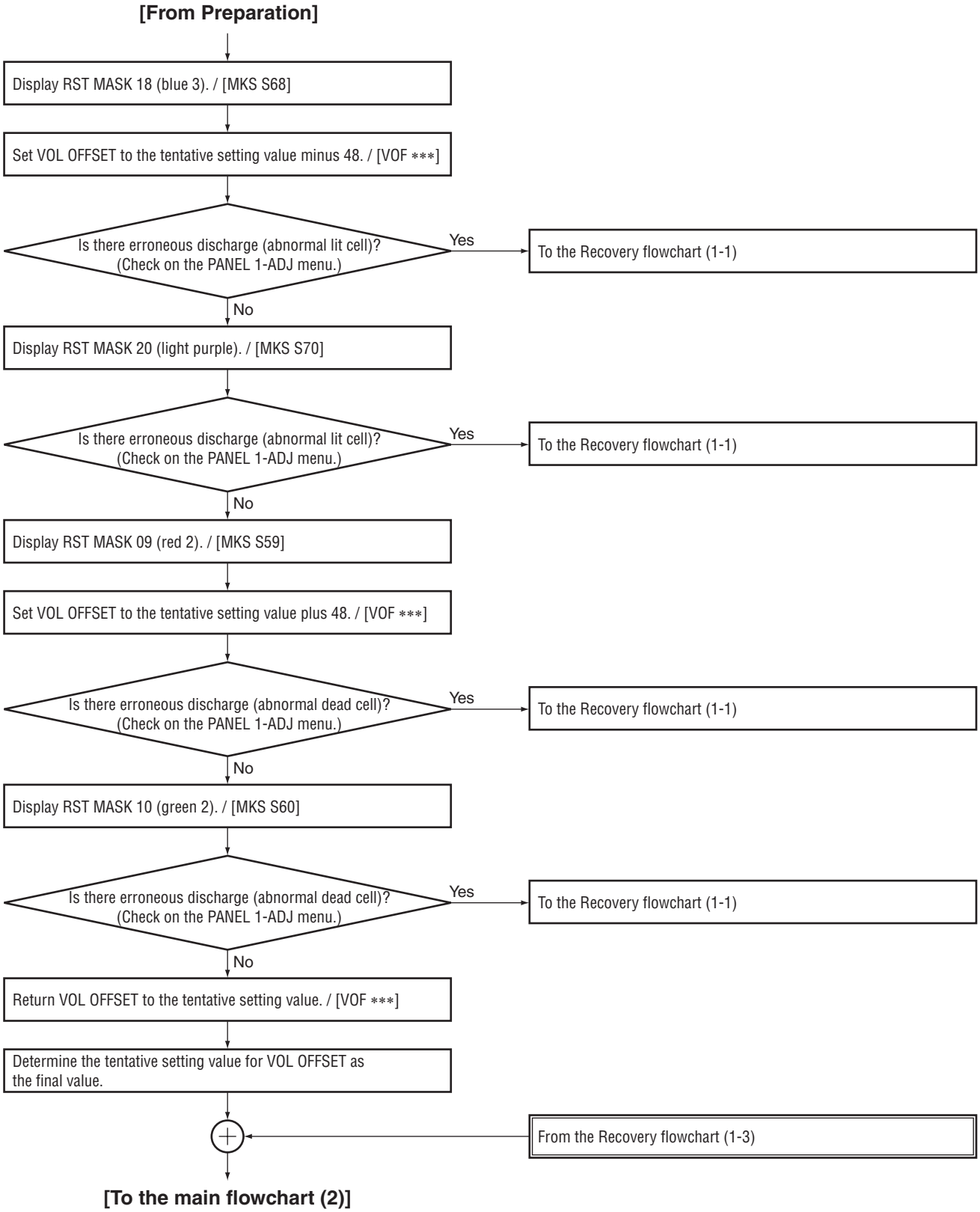

Procedures for resetting corrections for change over time
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]
Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]
Turn the unit off. / [POF]
Procedures for stabilizing the panel before adjustment
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Enter the initial values for the panel for service.
VOL SUS (127 fixed) / [VSU 127]
VOL OFFSET (Vsnofs adjustment voltage) reduction / [VOF ***]
VOL RST P (Vyprst adjustment voltage) reduction / [VPR ***]
VOL XPOFS1 (128 fixed: not used) / [VX1 128]
VOL XPOFS2 (084 fixed) / [VX2 084]
VOL YNOFS3 (Vyknof3 adjustment voltage) reduction / [VY3 ***]
VOL YNOFS1 (Vyknof3 adjustment voltage) reduction+43 / [VY1 ***]
VOL YNOFS4 (Vyknof3 adjustment voltage) reduction+64 / [VY4 ***]
Note:
On the XGA model, the circuits are not mounted in VX1.
Display RST MASK 01 (white). / [MKSS51]
Select Video 60-Hz sequence. / [VFQS03]
* To store the [VFQS03] command in memory, transmit it after displaying the mask.
Perform aging for 5 minutes.

**[To the main flowchart (1)]**

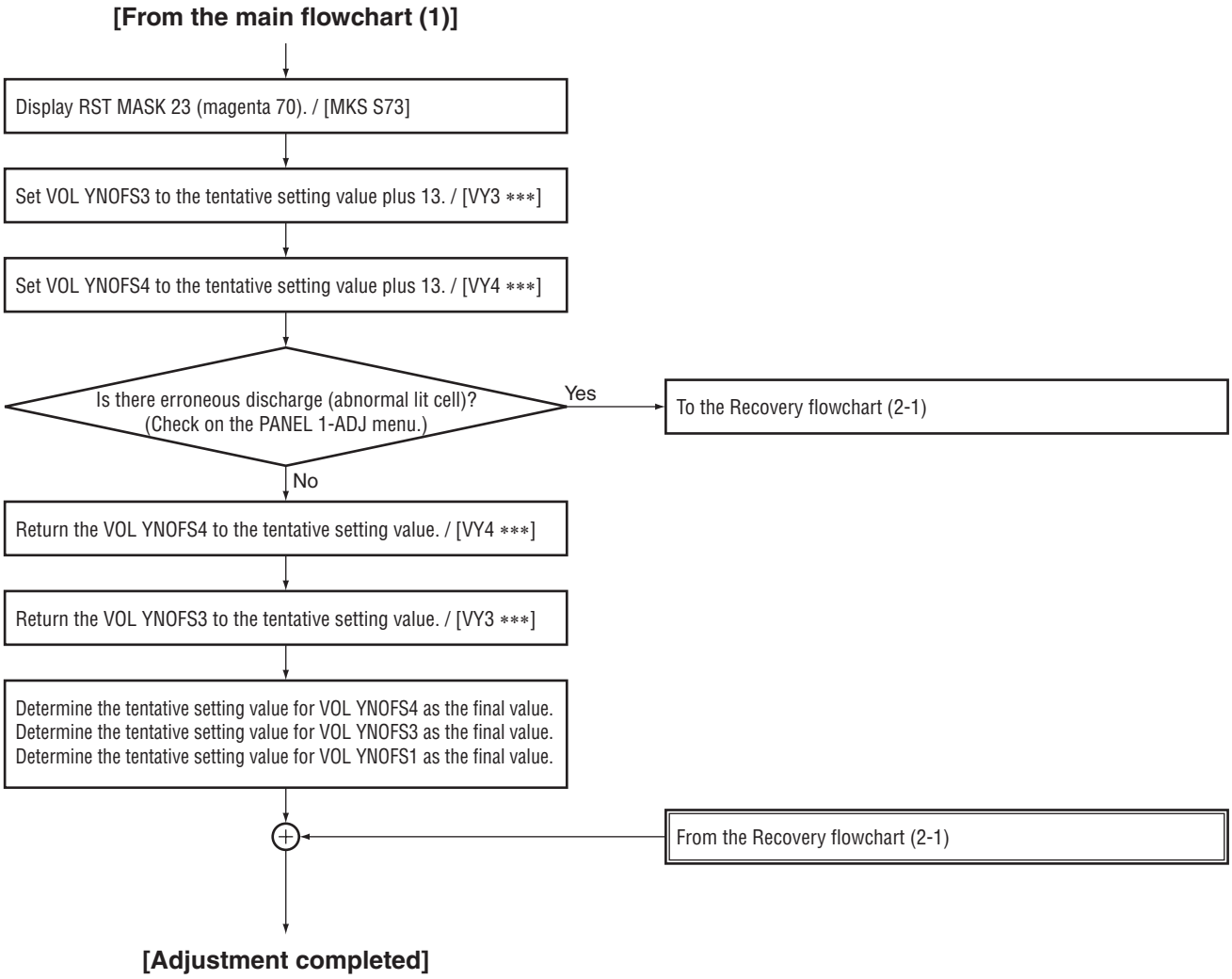
**Note:** If you perform the adjustment by RS-232C commands, the following commands must be added before going to the main flowchart (1):

**[PAV S00]**: To set panel drive mode to Factory
**[WBI S01]**: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
**[PGR S00]**: To set the gamma R value to that for Factory mode
**[PGG S00]**: To set the gamma G value to that for Factory mode
**[PGB S00]**: To set the gamma B value to that for Factory mode
**[DIZ S03]**:Dither ON,L dither ON, noise OFF

## ■ Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 18 (blue 3). / [MKS S68]
Set VOL OFFSET to the tentative setting value minus 48. / [VOF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 20 (light purple). / [MKS S70]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 09 (red 2). / [MKS S59]
Set VOL OFFSET to the tentative setting value plus 48. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (green 2). / [MKS S60]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Return VOL OFFSET to the tentative setting value. / [VOF ***]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-3)
[To the main flowchart (2)]

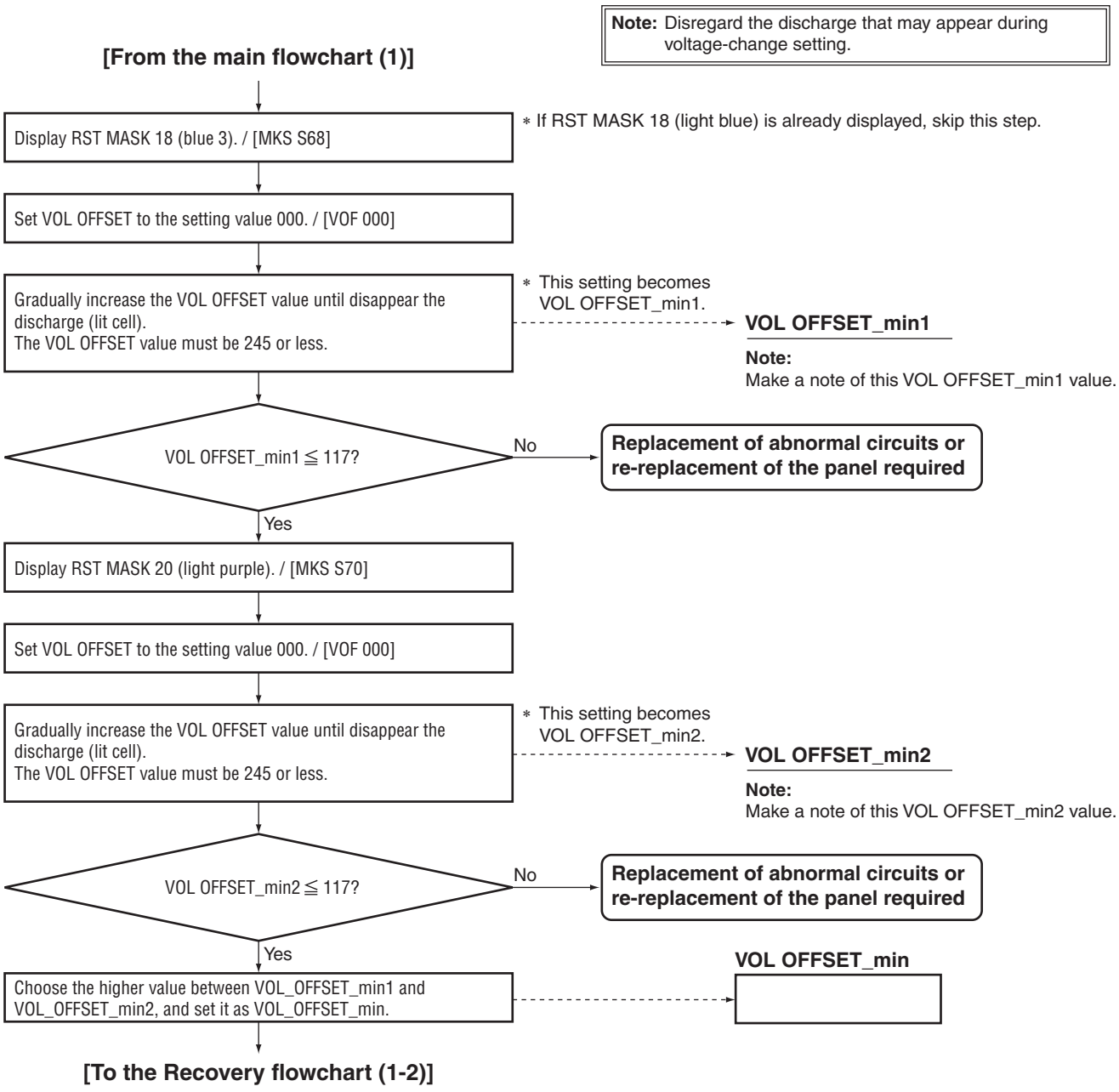
## ■ Main flowchart (2)...Checking VOL YNOFS3


[From the main flowchart (1)]
Display RST MASK 23 (magenta 70). / [MKS S73]
Set VOL YNOFS3 to the tentative setting value plus 13. / [VY3 ***]
Set VOL YNOFS4 to the tentative setting value plus 13. / [VY4 ***]
Is there erroneous discharge (abnormal lit cell)?
(Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Return the VOL YNOFS4 to the tentative setting value. / [VY4 ***]
Return the VOL YNOFS3 to the tentative setting value. / [VY3 ***]
Determine the tentative setting value for VOL YNOFS4 as the final value.
Determine the tentative setting value for VOL YNOFS3 as the final value.
Determine the tentative setting value for VOL YNOFS1 as the final value.
From the Recovery flowchart (2-1)
[Adjustment completed]

**Note:** Make sure that the values for VOL SUS(*1), VOL OFFSET, VOL RST P(*1), VOL XPOFS1, 2(*1) and VOL YNOFS1, 3, 4 are the final setting values.

*1: The tentative setting value becomes the final value.

## ■ Recovery flowchart (1-1)...Changing the Vol Offset setting voltage


Note: Disregard the discharge that may appear during voltage-change setting.
[From the main flowchart (1)]
Display RST MASK 18 (blue 3). / [MKS S68]
* If RST MASK 18 (light blue) is already displayed, skip this step.
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min1.
VOL OFFSET_min1
Note:
Make a note of this VOL OFFSET_min1 value.
VOL OFFSET_min1 ≦ 117?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
Display RST MASK 20 (light purple). / [MKS S70]
Set VOL OFFSET to the setting value 000. / [VOF 000]
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 245 or less.
* This setting becomes VOL OFFSET_min2.
VOL OFFSET_min2
Note:
Make a note of this VOL OFFSET_min2 value.
VOL OFFSET_min2 ≦ 117?
No
Replacement of abnormal circuits or re-replacement of the panel required
Yes
VOL OFFSET_min
Choose the higher value between VOL_OFFSET_min1 and VOL_OFFSET_min2, and set it as VOL_OFFSET_min.
[To the Recovery flowchart (1-2)]

## Recovery flowchart (1-2)

**[From the Recovery flowchart (1-1)]**

**Note:** Disregard the discharge that may appear during voltage-change setting.

Display RST MASK 09 (red 2). / [MKS S59]

Set VOL OFFSET to the setting value 240. / [VOF 240]

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).

* This setting becomes VOL OFFSET_max1.

**VOL OFFSET_max1**

**Note:**
Make a note of this VOL OFFSET_max1 value.

VOL OFFSET_max1 ≧ 107?

No → **Replacement of abnormal circuits or re-replacement of the panel required**

Yes

Display RST MASK 10 (green 2). / [MKS S60]

Set VOL OFFSET to the setting value 240. / [VOF 240]

Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).

* This setting becomes VOL OFFSET_max2.

**VOL OFFSET_max2**

**Note:**
Make a note of this VOL OFFSET_max2 value.

VOL OFFSET_max2 ≧ 107?

No → **Replacement of abnormal circuits or re-replacement of the panel required**

Yes

Choose the lower value between VOL_OFFSET_max1 and VOL_OFFSET_max2, and set it as VOL_OFFSET_max.

**VOL OFFSET_max**

**[To the Recovery flowchart (1-3)]**

## Recovery flowchart (1-3)

**[From the Recovery flowchart (1-2)]**

Is the VOL OFFSET_max value minus the VOL OFFSET_min value greater than 96?

No → **Replacement of abnormal circuits or re-replacement of the panel required**

Yes

Are the VOL OFFSET_max value 165 or greater and the VOL OFFSET_min value 069 or less?

No → VOL OFFSET_max < 165?

No

Yes

Yes

Set VOL OFFSET to the setting value 117. / [VOF 117]

Set VOL OFFSET to the setting value VOL OFFSET_max minus 48.

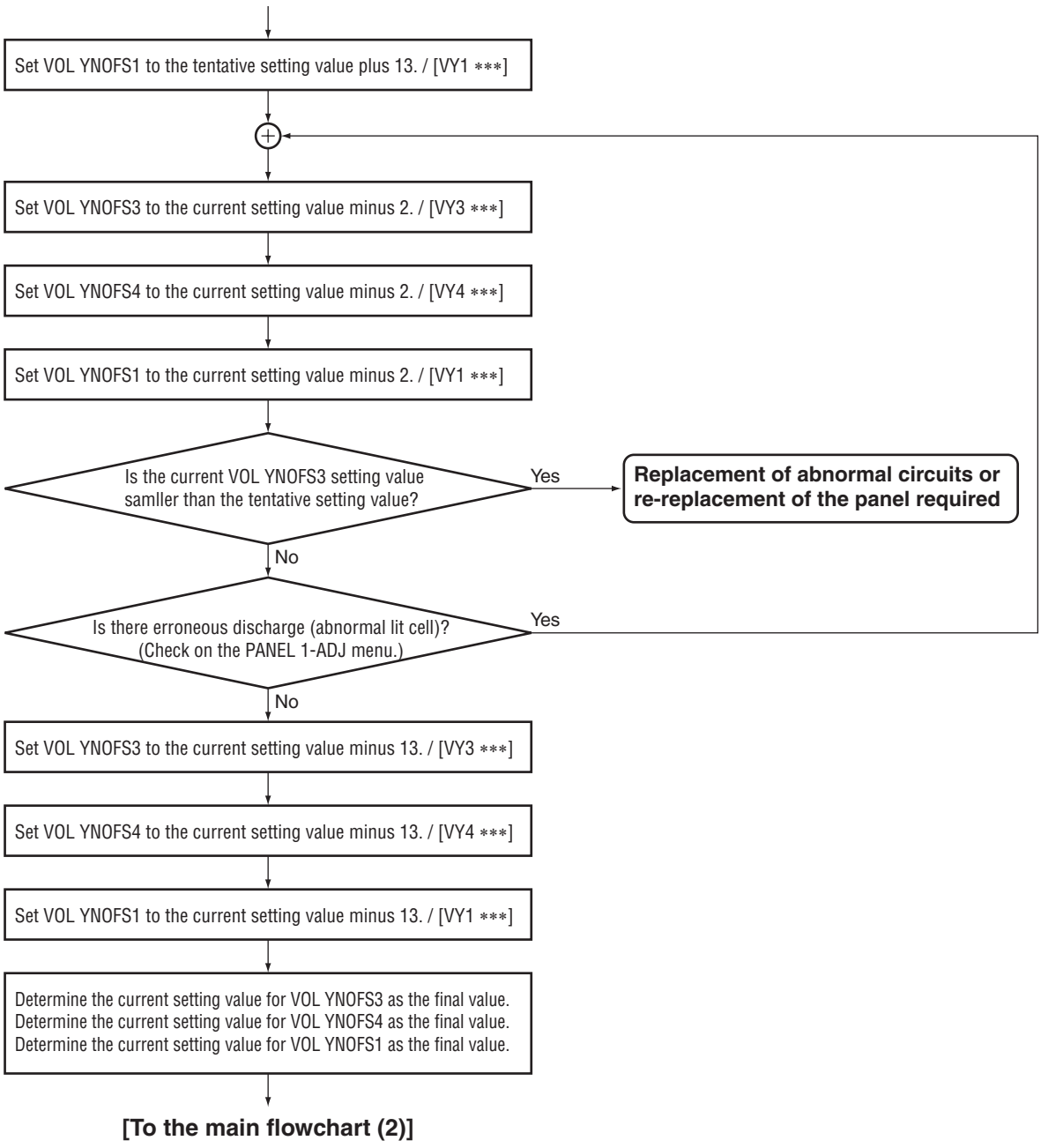
Set VOL OFFSET to the setting value VOL OFFSET_min plus 48.

Determine the current VOL OFFSET setting value as the final value.

**[To the main flowchart (1)]**

## ■ Recovery flowchart (2-1)...Changing the VOL YNOFS3 setting voltage

**Note:** Disregard the discharge that may appear during voltage-change setting.


[From the main flowchart (2)]
Set VOL YNOFS1 to the tentative setting value plus 13. / [VY1 ***]
Set VOL YNOFS3 to the current setting value minus 2. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 2. / [VY4 ***]
Set VOL YNOFS1 to the current setting value minus 2. / [VY1 ***]
Is the current VOL YNOFS3 setting value samller than the tentative setting value?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
No
Set VOL YNOFS3 to the current setting value minus 13. / [VY3 ***]
Set VOL YNOFS4 to the current setting value minus 13. / [VY4 ***]
Set VOL YNOFS1 to the current setting value minus 13. / [VY1 ***]
Determine the current setting value for VOL YNOFS3 as the final value.
Determine the current setting value for VOL YNOFS4 as the final value.
Determine the current setting value for VOL YNOFS1 as the final value.
[To the main flowchart (2)]

# Setting Voltages

| VOF | |
|---|---|
| Vysnofs (V) | Value |
| 14 | 000 |
| 15 | 005 |
| 16 | 011 |
| 17 | 016 |
| 18 | 021 |
| 19 | 027 |
| 20 | 032 |
| 21 | 037 |
| 22 | 043 |
| 23 | 048 |
| 24 | 053 |
| 25 | 059 |
| 26 | 064 |
| 27 | 069 |
| 28 | 075 |
| 29 | 080 |
| 30 | 085 |
| 31 | 091 |
| 32 | 096 |
| 33 | 101 |
| 34 | 107 |
| 35 | 112 |
| 36 | 117 |
| 37 | 123 |
| 38 | 128 |
| 39 | 133 |
| 40 | 139 |
| 41 | 144 |
| 42 | 149 |
| 43 | 155 |
| 44 | 160 |
| 45 | 165 |
| 46 | 171 |
| 47 | 176 |
| 48 | 181 |
| 49 | 187 |
| 50 | 192 |
| 51 | 197 |
| 52 | 203 |
| 53 | 208 |
| 54 | 213 |
| 55 | 219 |
| 56 | 224 |
| 57 | 229 |
| 58 | 235 |
| 59 | 240 |
| 60 | 245 |
| 61 | 251 |

| VRP | | | | | |
|---|---|---|---|---|---|
| Vyprst (V) | Value | Vyprst (V) | Value | Vyprst (V) | Value |
| 130 | 001 | 190 | 109 | 250 | 217 |
| 131 | 003 | 191 | 111 | 251 | 219 |
| 132 | 004 | 192 | 113 | 252 | 221 |
| 133 | 006 | 193 | 114 | 253 | 223 |
| 134 | 008 | 194 | 116 | 254 | 224 |
| 135 | 010 | 195 | 118 | 255 | 226 |
| 136 | 012 | 196 | 120 | 256 | 228 |
| 137 | 013 | 197 | 122 | 257 | 230 |
| 138 | 015 | 198 | 123 | 258 | 232 |
| 139 | 017 | 199 | 125 | 259 | 233 |
| 140 | 019 | 200 | 127 | 260 | 235 |
| 141 | 021 | 201 | 129 | 261 | 237 |
| 142 | 022 | 202 | 131 | 262 | 239 |
| 143 | 024 | 203 | 133 | 263 | 241 |
| 144 | 026 | 204 | 134 | 264 | 242 |
| 145 | 028 | 205 | 136 | 265 | 244 |
| 146 | 030 | 206 | 138 | 266 | 246 |
| 147 | 031 | 207 | 140 | 267 | 248 |
| 148 | 033 | 208 | 142 | 268 | 250 |
| 149 | 035 | 209 | 143 | 269 | 251 |
| 150 | 037 | 210 | 145 | 270 | 253 |
| 151 | 039 | 211 | 147 | 271 | 255 |
| 152 | 041 | 212 | 149 | | |
| 153 | 042 | 213 | 150 | | |
| 154 | 044 | 214 | 152 | | |
| 155 | 046 | 215 | 154 | | |
| 156 | 048 | 216 | 156 | | |
| 157 | 050 | 217 | 158 | | |
| 158 | 051 | 218 | 159 | | |
| 159 | 053 | 219 | 161 | | |
| 160 | 055 | 220 | 163 | | |
| 161 | 057 | 221 | 165 | | |
| 162 | 059 | 222 | 167 | | |
| 163 | 060 | 223 | 169 | | |
| 164 | 062 | 224 | 170 | | |
| 165 | 064 | 225 | 172 | | |
| 166 | 066 | 226 | 174 | | |
| 167 | 068 | 227 | 176 | | |
| 168 | 069 | 228 | 178 | | |
| 169 | 071 | 229 | 179 | | |
| 170 | 073 | 230 | 181 | | |
| 171 | 075 | 231 | 183 | | |
| 172 | 076 | 232 | 185 | | |
| 173 | 078 | 233 | 187 | | |
| 174 | 080 | 234 | 188 | | |
| 175 | 082 | 235 | 190 | | |
| 176 | 084 | 236 | 192 | | |
| 177 | 086 | 237 | 194 | | |
| 178 | 087 | 238 | 196 | | |
| 179 | 089 | 239 | 197 | | |
| 180 | 091 | 240 | 199 | | |
| 181 | 093 | 241 | 201 | | |
| 182 | 095 | 242 | 203 | | |
| 183 | 096 | 243 | 205 | | |
| 184 | 098 | 244 | 206 | | |
| 185 | 100 | 245 | 208 | | |
| 186 | 102 | 246 | 210 | | |
| 187 | 104 | 247 | 212 | | |
| 188 | 105 | 248 | 214 | | |
| 189 | 107 | 249 | 215 | | |

| VY1 | | | |
|---|---|---|---|
| Vyknofs1,2 (V) | Value | Vyknofs1,2 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

| VY3 | | | |
|---|---|---|---|
| Vyknofs3 (V) | Value | Vyknofs3 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

| VY4 | | | |
|---|---|---|---|
| Vyknofs4 (V) | Value | Vyknofs4 (V) | Value |
| 151 | 001 | 211 | 129 |
| 152 | 003 | 212 | 131 |
| 153 | 005 | 213 | 133 |
| 154 | 008 | 214 | 136 |
| 155 | 010 | 215 | 138 |
| 156 | 012 | 216 | 140 |
| 157 | 014 | 217 | 142 |
| 158 | 016 | 218 | 144 |
| 159 | 018 | 219 | 146 |
| 160 | 020 | 220 | 148 |
| 161 | 022 | 221 | 150 |
| 162 | 025 | 222 | 153 |
| 163 | 027 | 223 | 155 |
| 164 | 029 | 224 | 157 |
| 165 | 031 | 225 | 159 |
| 166 | 033 | 226 | 161 |
| 167 | 035 | 227 | 163 |
| 168 | 037 | 228 | 165 |
| 169 | 040 | 229 | 168 |
| 170 | 042 | 230 | 170 |
| 171 | 044 | 231 | 172 |
| 172 | 046 | 232 | 174 |
| 173 | 048 | 233 | 176 |
| 174 | 050 | 234 | 178 |
| 175 | 052 | 235 | 180 |
| 176 | 054 | 236 | 182 |
| 177 | 057 | 237 | 185 |
| 178 | 059 | 238 | 187 |
| 179 | 061 | 239 | 189 |
| 180 | 063 | 240 | 191 |
| 181 | 065 | 241 | 193 |
| 182 | 067 | 242 | 195 |
| 183 | 069 | 243 | 197 |
| 184 | 072 | 244 | 200 |
| 185 | 074 | 245 | 202 |
| 186 | 076 | 246 | 204 |
| 187 | 078 | 247 | 206 |
| 188 | 080 | 248 | 208 |
| 189 | 082 | 249 | 210 |
| 190 | 084 | 250 | 212 |
| 191 | 086 | 251 | 214 |
| 192 | 089 | 252 | 217 |
| 193 | 091 | 253 | 219 |
| 194 | 093 | 254 | 221 |
| 195 | 095 | 255 | 223 |
| 196 | 097 | 256 | 225 |
| 197 | 099 | 257 | 227 |
| 198 | 101 | 258 | 229 |
| 199 | 104 | 259 | 232 |
| 200 | 106 | 260 | 234 |
| 201 | 108 | 261 | 236 |
| 202 | 110 | 262 | 238 |
| 203 | 112 | 263 | 240 |
| 204 | 114 | 264 | 242 |
| 205 | 116 | 265 | 244 |
| 206 | 118 | 266 | 246 |
| 207 | 121 | 267 | 249 |
| 208 | 123 | 268 | 251 |
| 209 | 125 | 269 | 253 |
| 210 | 127 | 270 | 255 |

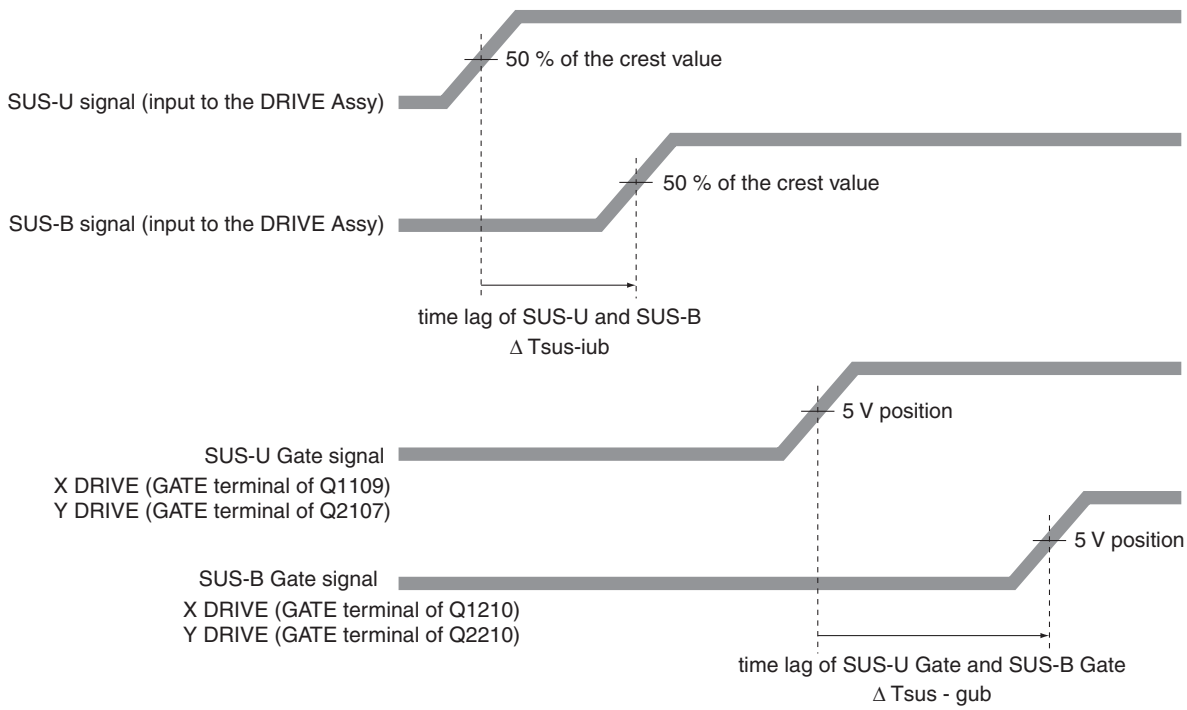
# 8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

## ■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

| Assy Name | Ref No. | Part Name | Part Category | Remarks |
|---|---|---|---|---|
| X DRIVE Assy | IC1101 | PS9117AP | Photo Coupler | |
| | IC1104 | TND307TD | FET Driver | |
| | IC1204 | PS9117AP | Photo Coupler | |
| | IC1209 | TND307TD | FET Driver | |
| Y DRIVE Assy | IC2101 | PS9117AP | Photo Coupler | |
| | IC2103 | TND307TD | FET Driver | |
| | IC2201 | PS9117AP | Photo Coupler | |
| | IC2203 | TND307TD | FET Driver | |

## ■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B GATE signal to the SUS-U GATE siganl.
Adjust the variable control so that the time lag of GATE becomes " time lag of input signal + $\alpha \pm 5$ nsec."
**Note:** For details on measuring points of waveform, see the figure below.


50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U Gate signal
X DRIVE (GATE terminal of Q1109)
Y DRIVE (GATE terminal of Q2107)
5 V position
SUS-B Gate signal
X DRIVE (GATE terminal of Q1210)
Y DRIVE (GATE terminal of Q2210)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

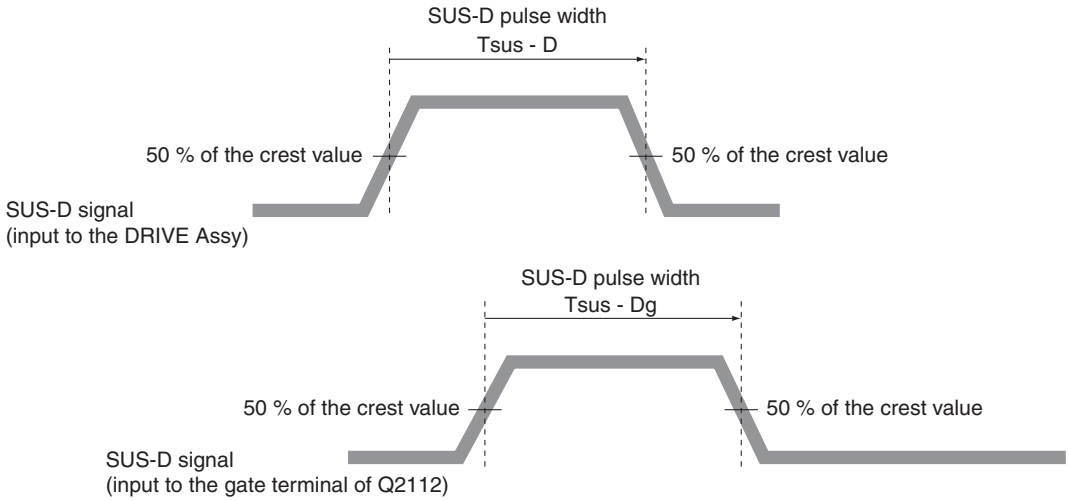
**Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub**
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + $\alpha \pm 5$ nsec," using the variable controls shown in the table below:

| Assy | VR | Value of $\alpha$ |
|---|---|---|
| X DRIVE Assy | VR1002 | 70 nsec |
| Y DRIVE Assy | VR2002 | 50 nsec |

## ■ DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2112).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2112) becomes the same pulse width ± 5 nsec as the SUS-D signal.

**Note:** For details on measuring points of waveform, see the figure below.

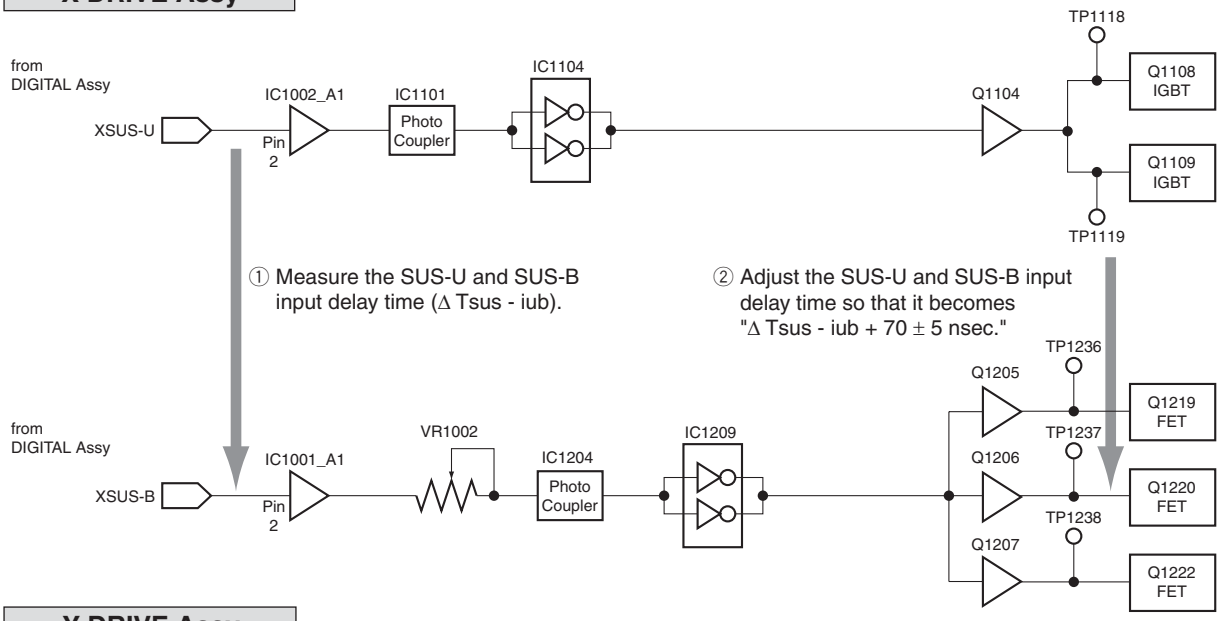

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2112)

**SUS-D pulse width: Tsus - Dg**
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

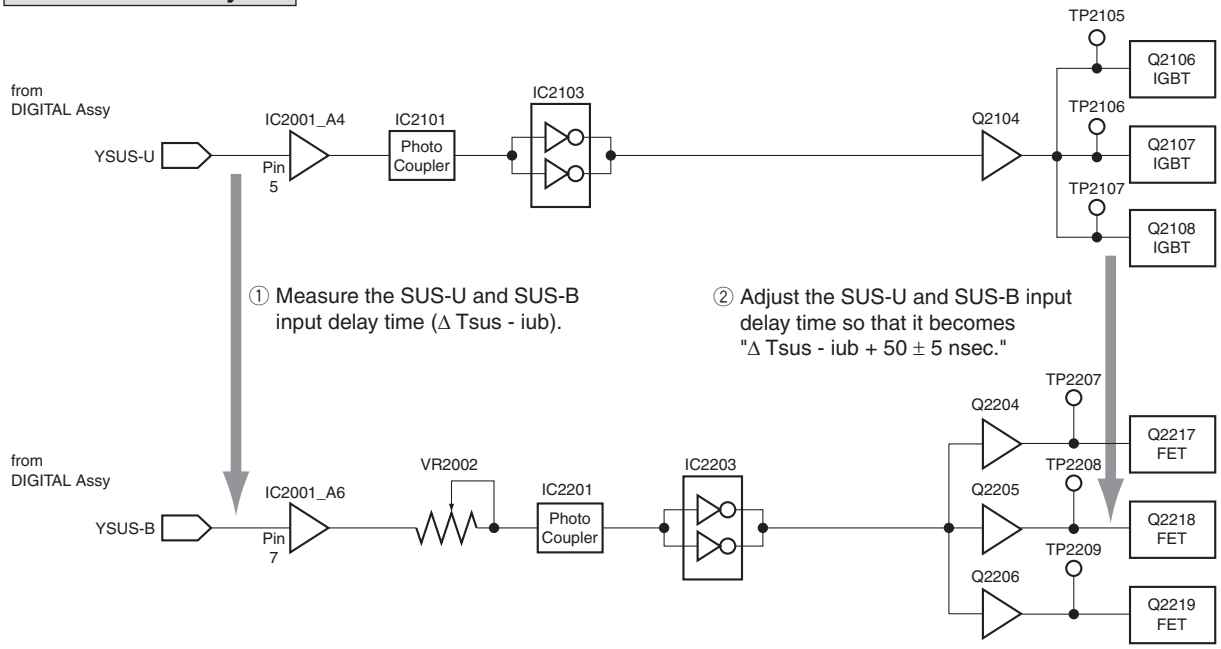
| Assy | VR |
|---|---|
| Y DRIVE Assy | VR2001 |

## SUS-B ADJUSTMENT

### X DRIVE Assy

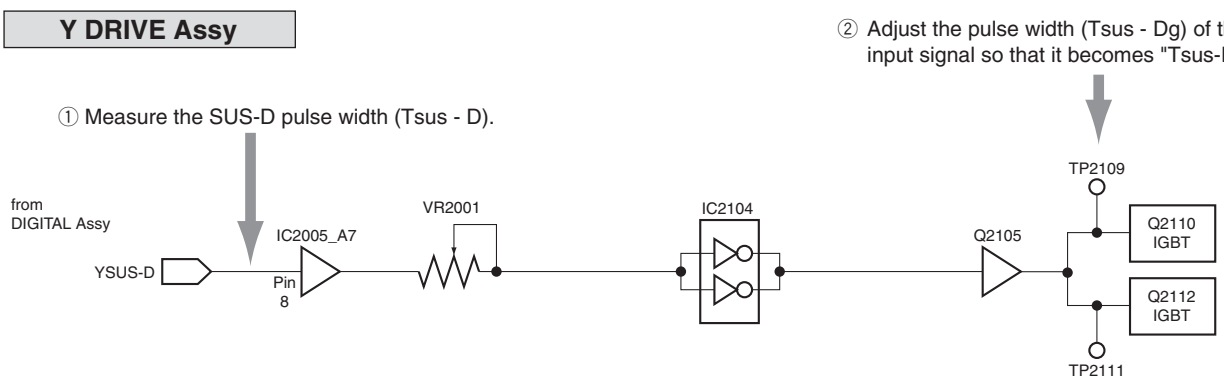



### Y DRIVE Assy




## SUS-D ADJUSTMENT

### Y DRIVE Assy



# 9. RS-232C

## 9.1 OUTLINE OF RS-232C COMMAND

### 9.1.1 PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

### 9.1.2 USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

# 9.2 LIST OF RS-232C COMMANDS

RS-232C commands can be used in Service Factory mode. Before using RS-232C commands, it is necessary to change the factory presetting. See "9.1 OUTLINE OF RS-232C COMMAND".
[Note ; If you want to see version infomation (ex. QS1, QSE, Factory, Menu), Please see 10 seconds after starting.]

## ■ RS-232C command list

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **A** | | | | | | | |
| ABL | *** | Adjusting the upper limit of the power | ● | | Mod | ● | |
| AMT | S00 | Audio mute OFF | | ● | | | |
| | S01 | Audio mute ON | | ● | | | |
| AP0 | S** | ADDRESS L1, L2 setting | ● | | Mod | ● | UP*/DN* is not effective |
| AP1 | S** | ADDRESS L3, L4 setting | ● | | Mod | ● | UP*/DN* is not effective |
| APN | *** | 1V average pulse number setting | ● | | Mod | ● | UP*/DN* is not effective |
| APW | S00 | APL interlocked function: OFF | ● | | | ● | |
| | S01 | APL interlocked function: ON | ● | | | ● | |
| | S02 | APL interlocked WB: ON / APL interlocked γ : OFF | ● | | | ● | |
| | S03 | APL interlocked WB: OFF / APL interlocked γ : ON | ● | | | ● | |
| **B** | | | | | | | |
| BCP | | Copying the backup data in the EEPROM | ● | | | ● | |
| BHI | *** | User white balance : BLUE highlight | ● | | | | |
| BLW | *** | User white balance : BLUE lowlight | ● | | | | |
| BRT | *** | User brightness | ● | | | | |
| BSM | S00 | After image/Burning safe mode: OFF | ● | | | | |
| | S01 | After image/Burning safe mode: ON | ● | | | | |
| **C** | | | | | | | |
| CBU | | Clearing backup data of EEPROM | ● | | | ● | |
| CHM | | Clearing data of the hour meter | ● | | | ● | |
| CHN | FWD | Changing tuner preset channel (1 step forward) | | ● | | | |
| | REV | Changing tuner preset channel (1 step reverse) | | ● | | | |
| CNT | *** | User contrast | ● | | | | |
| CMT | | Clearing data of the maximum temperature | ● | | | ● | |
| CPC | | Clearing power-on count data | ● | | | ● | |
| CPD | | Clearing power-down histrory | ● | | | ● | |
| CPM | | Clearing data of the pulse meter | ● | | | ● | |
| CSD | | Clearing shutdown history | ● | | | ● | |
| **D** | | | | | | | |
| DIZ | S00 | Dither/L dither OFF & noise OFF | ● | | | ● | |
| | S01 | Dither/L dither ON & noise ON | ● | | | ● | |
| | S02 | Dither/L dither OFF & noise ON | ● | | | ● | |
| | S03 | Dither/L dither ON & noise OFF | ● | | | ● | |
| DRV | S00 | Panel drive power OFF | ● | | | | |
| | S01 | Panel drive power ON | ● | | | | |
| DW* | | To subtract *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |
| **F** | | | | | | | |
| FAJ | | Determining the flag of the DIGITAL Assy adjustment in "adjustment is completed" | ● | | | ● | |
| FAN | | Factory mode off | ● | ● | | ● | |
| FAY | | Factory mode on | ● | ● | | | |
| FST | | Set each memory setting of MTB side to the shipment state. | | ● | | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **G** | | | | | | | |
| GHI | *** | User white balance : GREEN highlight | ● | | | | |
| GLW | *** | User white balance : GREEN low light | ● | | | | |
| **I** | | | | | | | |
| INA | *** | Switching the terrestrial analog signal (***: channel number) | | ● | Main | | |
| | | Switching the terrestrial analog signal | | ● | Main | | |
| INC | *** | Switching the terrestrial digital signal (Step-upD and RegularD only) (***:channel number) | | ● | Main | | |
| | | Switching the terrestrial digital signal (Step-upD and RegularD only) | | ● | Main | | |
| INH | | Switching the HomeGallery | | ● | | | |
| INP | S01 | Input switch: INPUT 1 | | ● | Main | | |
| | S02 | Input switch: INPUT 2 | | ● | Main | | |
| | S03 | Input switch: INPUT 3 | | ● | Main | | |
| | S04 | Input switch: INPUT 4 | | ● | Main | | |
| | S05 | Input switch: INPUT 5 | | ● | Main | | |
| | S06 | Input switch: INPUT 6 (PC) | | ● | Main | | |
| **M** | | | | | | | |
| MKC | S00 | Panel mask indication off | ● | | Mod | | |
| | S01 | H ramp (slant 1) M | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) M | ● | | Mod | ● | |
| | S03 | Slanting ramp M | ● | | Mod | ● | |
| | S04 | 30 for aging | ● | | Mod | ● | |
| | S05 | 05 for aging | ● | | Mod | ● | |
| | S06 | Erasing afterimage 1 | ● | | Mod | ● | |
| | S07 | Erasing afterimage 2 (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S08 | White (change in luminance level) | ● | | Mod | ● | |
| | S09 | PEAK SEEK RASTER | ● | | Mod | ● | |
| | S10 | For engineering use | ● | | Mod | ● | |
| | S11 | Green vertical line scroll | ● | | Mod | ● | |
| | S12 | Green horizontal line scroll | ● | | Mod | ● | |
| | S13 | Vertical ramp vertical scroll (white) | ● | | Mod | ● | |
| | S14 | Vertical ramp vertical scroll (green) | ● | | Mod | ● | |
| | S15 | Horizontal ramp horizontal scroll (white) | ● | | Mod | ● | |
| | S16 | Horizontal ramp horizontal scroll (green) | ● | | Mod | ● | |
| | S17 | Cross hatch + window | ● | | Mod | ● | |
| MKS | S00 | MASK off | ● | | Mod | | |
| | S01 | H ramp (slant 1) | ● | | Mod | ● | |
| | S02 | H ramp (slant 4) | ● | | Mod | ● | |
| | S03 | V ramp (slant 1) | ● | | Mod | ● | |
| | S04 | Slanting ramp | ● | | Mod | ● | |
| | S05 | Window (Hi= 870, Lo= 102) | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **M** | | | | | | | |
| MKS | S06 | Window (Hi= 1023, Lo= 102) | ● | | Mod | ● | |
| | S07 | Window (Hi= 1023, Lo=000) | ● | | Mod | ● | |
| | S08 | Window (Hi= 1023) 4 % | ● | | Mod | ● | |
| | S09 | Window (Hi= 1023) 1.25 % | ● | | Mod | ● | |
| | S10 | Window (1/7 LINE) | ● | | Mod | ● | |
| | S11 | STRIPE (MGT/GRN) | ● | | Mod | ● | |
| | S12 | STRIPE (GRN/MGT) | ● | | Mod | ● | |
| | S13 | B & W, checker (1 line) | ● | | Mod | ● | |
| | S14 | B & W, checker (2 lines) | ● | | Mod | ● | |
| | S15 | B & W, checker (4 lines) | ● | | Mod | ● | |
| | S16 | B & W, checker (8 lines) | ● | | Mod | ● | |
| | S17 | COLOR BAR | ● | | Mod | ● | |
| | S18 | Slanting lines | ● | | Mod | ● | |
| | S19 | Red & black, checker (1 line) | ● | | Mod | ● | |
| | S20 | Red & black, checker (2 lines) | ● | | Mod | ● | |
| | S21 | Red & black, checker (4 lines) | ● | | Mod | ● | |
| | S22 | Red & black, checker (8 lines) | ● | | Mod | ● | |
| | S23 | Erasing afterimage (RGB: zigzag, V: reverse) | ● | | Mod | ● | |
| | S24 | SUS 2000 pulses (black raster) | ● | | Mod | ● | |
| | S25 | 1 for perfect linear | ● | | Mod | ● | |
| | S26 | 2 for perfect linear | ● | | Mod | ● | |
| | S27 | 3 for perfect linear | ● | | Mod | ● | |
| | S28 | 4 for perfect linear | ● | | Mod | ● | |
| | S29 | RGB checker 1 | ● | | Mod | ● | |
| | S30 | RGB checker 2 | ● | | Mod | ● | |
| | S31 | Window RED (RED=1023) | ● | | Mod | ● | |
| | S32 | Window GREEN (GREEN=1023) | ● | | Mod | ● | |
| | S33 | Window BLUE (BLUE=1023) | ● | | Mod | ● | |
| | S34 | Even line horizontal stripes | ● | | Mod | ● | |
| | S35 | Odd line horizontal stripes | ● | | Mod | ● | |
| | S36 | Afterimage check 1 | ● | | Mod | ● | |
| | S37 | Afterimage check 2 | ● | | Mod | ● | |
| | S38 | Afterimage check 3 | ● | | Mod | ● | |
| | S39 | Afterimage check 4 | ● | | Mod | ● | |
| | S40 | Red single-color slanting ramp | ● | | Mod | ● | |
| | S41 | GREEN single-color slanting ramp | ● | | Mod | ● | |
| | S42 | BLUE single-color slanting ramp | ● | | Mod | ● | |
| | S43 | Black back acnode | ● | | Mod | ● | |
| | S44 | Horizontal stripes every eight white lines | ● | | Mod | ● | |
| | S45 | 5 for perfect linear | ● | | Mod | ● | |
| | S46 | 6 for perfect linear | ● | | Mod | ● | |
| | S47 | 7 for perfect linear | ● | | Mod | ● | |
| | S48 | 8 for perfect linear | ● | | Mod | ● | |
| | S49 | Mask for ABL adjustment | ● | | Mod | ● | |
| | S51 | Raster - White | ● | | Mod | ● | |
| | S52 | Raster - Red | ● | | Mod | ● | |
| | S53 | Raster - Green | ● | | Mod | ● | |
| | S54 | Raster - Blue | ● | | Mod | ● | |
| | S55 | Raster - Black | ● | | Mod | ● | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| MKS | S56 | Raster - Cyan | ● | | Mod | ● | |
| | S57 | Raster - Magenta | ● | | Mod | ● | |
| | S58 | Raster - Yellow | ● | | Mod | ● | |
| | S59 | Raster - Red 2 | ● | | Mod | ● | |
| | S60 | Raster - Green 2 | ● | | Mod | ● | |
| | S61 | Raster - Blue 2 | ● | | Mod | ● | |
| | S62 | Raster - Magenta 2 | ● | | Mod | ● | |
| | S63 | Raster - Red 624 | ● | | Mod | ● | |
| | S64 | Raster - Green 624 | ● | | Mod | ● | |
| | S65 | Raster - Blue 624 | ● | | Mod | ● | |
| | S66 | Raster - Gray 624 | ● | | Mod | ● | |
| | S67 | Raster - Beige | ● | | Mod | ● | |
| | S68 | Raster - Blue 3 | ● | | Mod | ● | |
| | S69 | Raster - Light blue | ● | | Mod | ● | |
| | S70 | Raster - Pale purple | ● | | Mod | ● | |
| | S71 | Raster - Yellow egg color | ● | | Mod | ● | |
| | S72 | Raster - Pale purple 2 | ● | | Mod | ● | |
| | S73 | Raster - Magenta 70 | ● | | Mod | ● | |
| | S74 | Raster - Gray 70 | ● | | Mod | ● | |
| | S75 | Raster - Gray 307 | ● | | Mod | ● | |
| MST | S00 | Display one screen | | ● | | | |
| | S01 | PsideP (Main size: normal) | | ● | | | |
| | S02 | PinP (Right down) | | ● | | | |
| | S03 | PinP (Right up) | | ● | | | |
| | S04 | PinP (Left up) | | ● | | | |
| | S05 | PinP (Left down) | | ● | | | |
| | S08 | SWAP (Exchanging sub-screen) | | ● | | | |
| **N** | | | | | | | |
| NGP | S00 | Negative positive inversion: OFF | ● | | | ● | |
| | S01 | Negative positive inversion: ON | ● | | | ● | |
| **O** | | | | | | | |
| OSD | S00 | Turning OSD setting to off | | ● | Main | | |
| | S01 | Turning OSD setting to on | | ● | Main | | |
| **P** | | | | | | | |
| PAV | S** | Switching panel functions interlocked with the AV selection | ● | | | | |
| PBH | *** | Panel white balance adjustment - Blue highlight | ● | | Mod | ● | |
| PBL | *** | Panel white balance adjustment - Blue low light | ● | | Mod | ● | |
| PDM | S00 | Passing PD signals to the POWER SUPPLY Unit => Power-down | ● | | | | |
| | S01 | Not passing PD signals to the POWER SUPPLY Unit => No power-down | ● | | | | |
| PFL | S00 | Peripheral luminance correction: OFF | ● | | | ● | |
| | S01 | Peripheral luminance correction: ON fixed | ● | | | ● | |
| | S02 | Peripheral luminance correction: APL interlocked ON | ● | | | ● | |
| PES | S00 | Set the power consumption setting of the panel side to OFF | ● | | | | |
| | S01 | Set the power consumption setting of the panel side to Energy saving 1 | ● | | | | |
| | S02 | Set the power consumption setting of the panel side to Energy saving 2 | ● | | | | |
| PFN | | Factory mode: off | ● | | | ● | |
| PFS | | Setup at shipment | ● | | | ● | |
| PFY | | Factory mode: on | ● | | | ● | |
| PGB | S** | Independent gamma Blue | ● | | | | |
| PGG | S** | Independent gamma Green | ● | | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **P** | | | | | | | |
| PGR | S** | Independent gamma Red | ● | | | | |
| PGH | *** | Panel white balance adjustment - Green highlight | ● | | Mod | ● | |
| PGL | *** | Panel white balance adjustment - Green low light | ● | | Mod | ● | |
| PMT | S00 | Canceling panel muting | ● | | | | |
| | S01 | Panel muting | ● | | | | |
| PKD | S00 | Peak luminance detection: OFF | ● | | | ● | |
| | S01 | Peak luminance detection: ON | ● | | | ● | |
| PKL | S** | Panel brightness setting | ● | | | | |
| POF | | Power OFF | ● | ● | Main | | |
| PON | | Power on | ● | ● | Main | | |
| PPT | S00 | Panel protection: off | ● | | | ● | |
| | S01 | Panel protection: on | ● | | | ● | |
| PRH | *** | Panel white balance adjustment - Red highlight | ● | | Mod | ● | |
| PRL | *** | Panel white balance adjustment - Red low light | ● | | Mod | ● | |
| PUC | S00 | Pure cinema: off | | ● | Main | ● | |
| | S01 | Pure cinema: Standard | | ● | Main | ● | |
| | S02 | Pure cinema: Advance | | ● | Main | ● | |
| | S03 | Pure cinema: Smooth | | ● | Main | ● | |
| **Q** | | | | | | | |
| QAJ | | Acquiring various adjustment values | ● | | | | |
| QMT | | Acquiring temperature of MTB side and Fan speed | | ● | | | |
| QNG | | Acquiring shutdown information of MTB side | | ● | | | |
| QPD | | Acquiring logs of power-down points | ● | | | | |
| QPM | | Acquiring data of the pulse meter | ● | | | | |
| QPW | | Acquiring panel white balance adjustment values | ● | | | | |
| QS1 | | Acquiring unit data, such as the software version common to all models, regardless of destination | ● | ● | | | |
| QS2 | | Acquiring data on the status of the unit, such as temperature | ● | | | | |
| QS3 | | Each information output for panel | ● | | | | |
| QSE | | Acquiring unit data, such as the software version common to all models, regardless of destination | | ● | | | |
| QSD | | Acquiring data on shutdown | ● | | | | |
| QSI | | Acquiring data related with signals | ● | | | | |
| QSP | | Acquiring the software sub-version of the microcomputer at panel side | ● | | | | |
| **R** | | | | | | | |
| RBL | S** | Setting of blue level for panel degradation correction | ● | | Mod | ● | |
| RGL | S** | Setting of green level for panel degradation correction | ● | | Mod | ● | |
| RHI | *** | User white balance - Red highlight | ● | | | | |
| RLS | S** | Room light sensor operation at panel side | ● | | | | |
| RLW | *** | User white balance - Red low light | ● | | | | |
| RRL | S** | Setting of red level for panel degradation correction | ● | | Mod | ● | |
| R1K | *** | RESET1ST_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| R2K | *** | RESET2ND_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **S** | | | | | | | |
| SDM | S00 | Shutdown enabled | ● | | | | |
| | S01 | Shutdown prohibited | ● | | | | |
| SFR | S01 | Measures against AM radio noise - Pattern 1 | ● | | Mod | ● | |
| | S02 | Measures against AM radio noise - Pattern 2 | ● | | Mod | ● | |
| | S03 | Measures against AM radio noise - Pattern 3 | ● | | Mod | ● | |
| | S04 | Measures against AM radio noise - Pattern 4 | ● | | Mod | ● | |
| | S05 | Measures against AM radio noise - Pattern 5 | ● | | Mod | ● | |
| | S06 | Measures against AM radio noise - Pattern 6 | ● | | Mod | ● | |
| | S07 | Measures against AM radio noise - Pattern 7 | ● | | Mod | ● | |
| | S08 | Measures against AM radio noise - Pattern 8 | ● | | Mod | ● | |
| SKM | S00 | STREAKING correction OFF | ● | | Mod | ● | |
| | S01 | STREAKING correction mode 1 | ● | | Mod | ● | |
| | S02 | STREAKING correction mode 2 | ● | | Mod | ● | |
| | S03 | STREAKING correction mode 3 | ● | | Mod | ● | |
| | S04 | STREAKING correction mode 4 | ● | | Mod | ● | |
| | S05 | STREAKING correction mode 5 | ● | | Mod | ● | |
| | S06 | STREAKING correction mode 6 | ● | | Mod | ● | |
| | S07 | STREAKING correction mode 7 | ● | | Mod | ● | |
| | S08 | STREAKING correction mode 8 | ● | | Mod | ● | |
| SMC | S01 | Smooth clear drive OFF | ● | | | ● | |
| | S02 | Smooth clear drive ON | ● | | | ● | |
| SML | *** | Adjustment of the side mask level | | ● | Main | ● | |
| SMM | S** | Setting of the effective area during streaking correction | ● | | | ● | |
| SN0 | *** | Setting of the serial No. 0 (panel) | ● | | Mod | ● | |
| SN1 | *** | Setting of the serial No. 1 (panel) | ● | | Mod | ● | |
| SN2 | *** | Setting of the serial No. 2 (panel) | ● | | Mod | ● | |
| SN3 | *** | Setting of the serial No. 3 (panel) | ● | | Mod | ● | |
| SN4 | *** | Setting of the serial No. 4 (panel) | ● | | Mod | ● | |
| SQM | S01 | VIDEO sequence setting | ● | | | | |
| | S02 | PC sequence setting | ● | | | | |
| SSM | S01 | SSCG OFF | ● | | | ● | |
| | S02 | SSCG ON | ● | | | ● | |
| SZM | S00 | Setting the screen size to Dot by Dot | | ● | Main | | |
| | S01 | Setting the screen size to 4 :3 | | ● | Main | | |
| | S02 | Setting the screen size to FULL | | ● | Main | | |
| | S03 | Setting the screen size to ZOOM | | ● | Main | | |
| | S04 | Setting the screen size to CINEMA | | ● | Main | | |
| | S05 | Setting the screen size to WIDE | | ● | Main | | |
| | S06 | Setting the screen size to FULL 14 : 9 | | ● | Main | | |
| | S07 | Setting the screen size to CINEMA 14 : 9 | | ● | Main | | |
| **T** | | | | | | | |
| THS | S00 | Theater port interlock operation OFF | ● | | | | |
| | S01 | Theater port interlock operation ON | ● | | | | |
| **U** | | | | | | | |
| UAJ | | Determining the flag for the DIGITAL Assy adjustment in "not adjusted" | ● | | | | |
| UP* | | To add *** to the adjustment value (*** = 000 to 999, designated by a function command) | | ● | | | |

| Command Name | | Function | Active U-com | | Last Memory | Effective only in Factory mode | Remarks |
|---|---|---|---|---|---|---|---|
| | | | MDU | MTB | | | |
| **V** | | | | | | | |
| VFQ | S01 | Setting the frequency in Mask mode to VD-48 Hz | ● | | Mod | ● | |
| | S02 | Setting the frequency in Mask mode to VD-50 Hz | ● | | Mod | ● | |
| | S03 | Setting the frequency in Mask mode to VD-60 Hz | ● | | Mod | ● | |
| | S05 | Setting the frequency in Mask mode to VD-72 Hz | ● | | Mod | ● | |
| | S06 | Setting the frequency in Mask mode to VD-75 Hz | ● | | Mod | ● | |
| | S13 | Setting the frequency in Mask mode to PC-60 Hz | ● | | Mod | ● | |
| | S22 | Setting the frequency in Mask mode to VD-50 Hz (nonstandard) | ● | | Mod | ● | |
| | S23 | Setting the frequency in Mask mode to VD-60 Hz (nonstandard) | ● | | Mod | ● | |
| | S25 | Setting the frequency in Mask mode to VD-72 Hz (nonstandard) | ● | | Mod | ● | |
| | S26 | Setting the frequency in Mask mode to VD-75 Hz (nonstandard) | ● | | Mod | ● | |
| VOF | *** | Adjustment of the reference value of Vofs voltage | ● | | | ● | |
| VOL | UP*, DW*, *** | To adjust the volume (to be used in combination with UP*/DW*) | | ● | | | |
| VRP | *** | Adjustment of the reference value of Vrst-p voltage | ● | | | ● | |
| VSU | *** | Adjustment of the reference value of Vsus voltage | ● | | | ● | |
| VX1 | *** | Adjustment of the reference value of Vxpofs1 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VX2 | *** | Adjustment of the reference value of Vxpofs2 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY1 | *** | Adjustment of the reference value of Vyknofs1, 2 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY3 | *** | Adjustment of the reference value of Vyknofs3 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| VY4 | *** | Adjustment of the reference value of Vyknofs4 voltage | ● | | Mod | ● | UP*/DN* is not effective |
| **W** | | | | | | | |
| WBI | S00 | Panel WB standard output mode: off | ● | | | ● | |
| | S01 | Panel WB standard output mode: on | ● | | | ● | |
| **X** | | | | | | | |
| X1B | *** | XSUS_1ST_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| X3B | *** | XSUS_3RD_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| XSB | *** | XSUS_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| **Y** | | | | | | | |
| Y1K | *** | YSTL_1SF_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y1Z | *** | YSTL_1SF_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2B | *** | YSUS_2ND_B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2K | *** | YSTL_2SF_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| Y2Z | *** | YSTL_2SF_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YNK | *** | YSTL_FMR_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YNZ | *** | YSTL_FMR_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YTK | *** | YSTL_KSB adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YTZ | *** | YSTL_HZ adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| YSB | *** | Y-SUS-B adjustment | ● | | Mod | ● | UP*/DN* is not effective |
| **Z** | | | | | | | |
| ZME | | Initializing the video EEPROM data | | ● | | ● | |
| ZPR | | Initializing the setting data to which no adjustment command is provided | ● | | | ● | |

# 9.3 DETAILS OF EACH COMMANDS

## 9.3.1 QS1 (PANEL STATUS)

Model information and version information are returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS1] | Every Time | Output of status | Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS1 (Fixed) |
| 1 | Resolution/size | 1 byte | 6 |
| 2 | Panel Generation | 1 byte | 8 |
| 3 | Destination | 1 byte | * |
| 4 | Grade | 1 byte | * |
| 5 | Panel Product Form | 1 byte | B |
| 6 | Boot version of Module microcomputer | 3 byte | 05H |
| 7 | Program version of Module microcomputer | 8 byte | – 01A |
| 8 | Boot version of Sequence processor | 3 byte | 07X |
| 9 | Program version of Sequence processor | 8 byte | – 01W |
| 10 | Panel information | 8 byte | G8_50X_4 |
| 11 | Reserved (*) | 8 byte | ******** |
| 12 | , (comma) | 1 byte | |
| 13 | MTB information 1 (Generation) | 1 byte | 8 |
| 14 | MTB information 2 (Regional model) | 1 byte | E |
| 15 | MTB information 3 (Grade) | 1 byte | R |
| 16 | MTB information 4 (System Type) | 1 byte | B |
| 17 | Common version for IF microcomputer | 8 byte | – 06A |
| 18 | Boot version of IF microcomputer | 4 byte | 01A |
| 19 | Common version for Main microcomputer | 8 byte | – 27E |
| 20 | Boot version of Main microcomputer | 4 byte | – 03E |
| 21 | Common version for Multi-processor | 8 byte | – 09H |
| 22 | Boot version of Multi-processor | 4 byte | 09A |
| 23 | Check Sum | 2 byte | FF |

| 13: MTB/MB Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 14: Regional Model | |
|---|---|
| J | JP |
| A | US |
| E | EU |
| G | GE |
| C | CH |
| U | AU |

| 15: MTB/MB Grade | |
|---|---|
| H | Elite/XDA/Step-upD |
| T | Step-upA/XG/XC/Regular (US) |
| B | Not used (For Future) |
| S | RegularD |
| R | RegularA |

| 16: MTB/MB Product Form | |
|---|---|
| S | System model |
| B | One body model (SX) |

| 1: Resolution/Inch Size | |
|---|---|
| 3 | 1024*768-42 |
| 4 | 1024*768-43 |
| 5 | 1280*768-50 |
| 6 | 1365*768-50 |
| 7 | 1365*768-60 |
| E | 1920*1080-42 |
| F | 1920*1080-50 |
| G | 1920*1080-60 |

| 2: Panel Generation | |
|---|---|
| 6 | G6 |
| 7 | G7 |
| 8 | G8 |
| 9 | G9 |
| 0 | G10 |

| 3: Destination | |
|---|---|
| * | Commonness |
| A | US (Reserved) |
| E | EU (Reserved) |
| J | Japan (Reserved) |

| 4: Grade | |
|---|---|
| * | Commonness |
| Z | Evaluation |

| 5: Panel Product Form | |
|---|---|
| S | System model |
| B | All-in-one design TV |
| M | Monitor |
| D | Standard module |
| E | Simple module |

| 10: Panel Information | | |
|---|---|---|
| 1 to 3rd byte | G8_ | Generation information (+ under bar) |
| 4 to 5th byte | 42 | 42 inch |
| | 50 | 50 inch |
| | 60 | 60 inch |
| | ** | PSIZE information and SQ_LSI version mismatching (version mismatching at SD) |
| 6th byte | F | FHD |
| | X | XGA |
| | * | Model information and SQ_LSI version mismatching (version mismatching at SD) |
| 7th byte | _ | Under bar |
| 8th byte | 6 | 2nd PLANT |
| | 4 | 1st PLANT |
| | * | PLANT information and SQ_LSI version mismatching (version mismatching at SD) |
| | ‘ | Others |

## 9.3.2 QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS2] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS2 |
| 1 | Notification of mode shifting to STB | 1 byte | 1 |
| 2 | Flag for adjustment of the main unit | 1 byte | 0 |
| 3 | Flag for adjustment-data backup | 1 byte | 0 |
| 4 | "1st PD" data | 1 byte | 0 |
| 5 | "2nd PD" data | 1 byte | 0 |
| 6 | Reserved | 3 byte | *** |
| 7 | Temperature data (TEMP 1) | 3 byte | 128 |
| 8 | SD main data | 1 byte | 0 |
| 9 | SD sub data | 1 byte | 0 |
| 10 | Operation status induced by SD | 1 byte | 0 |
| 11 | Reserved | 3 byte | *** |
| 12 | HOUR METER | 8 byte | 00000259 |
| 13 | MASK indication | 1 byte | 0 |
| 14 | Still picture detection | 1 byte | 0 |
| 15 | SCAN protection detection | 1 byte | 0 |
| 16 | Panel crack detection | 1 byte | 0 |
| 17 | Address emergency detection | 1 byte | 0 |
| 18 | Reserved | 4 byte | **** |
| CS | | 2 byte | 4A |

| 1: Notification of mode shifting to Standby | |
|---|---|
| P | During power ON |
| 0 | Entering Standby mode failed |
| 1 | Entering Standby mode succeeded |

| 2: Adjustment of the main unit | |
|---|---|
| 0 | Adjustment completed |
| 1 | Adjustment not completed |

| 3: Adjustment-data backup | |
|---|---|
| 0 | With backup data |
| 1 | No data (default) |

| 4, 5: PD data | |
|---|---|
| 0 | No PD data |
| 1 | Not used |
| 2 | POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRV |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | ADRS |
| 9 | X-DRV |
| A | X-DCDC |
| B | X-SUS |
| C | DIG-DCDC |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

| 8: SD main data | |
|---|---|
| 0 | No SD |
| 1 | SQ_LSI |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

| 9-1: SD-Sub (SQ_LSI) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 4 | Version mismatching (H/S) |
| 5 | Version mismatching (M/S) |

| 9-2: SD-Sub (IIC) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC1 |
| 4 | DAC2 |

| 9-3: SD-Sub (TEMP) | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 high temperature |
| 2 | TEMP1 low temperature |

| 10: Operation status induced by SD | |
|---|---|
| 0 | Normal |
| 1 | Relay-off completed |
| 2 | During warning indication |

| 13: MASK indication | |
|---|---|
| 0 | MASK-OFF |
| 1 | MASK-ON |

| 14 to 17: Details of power protection function | |
|---|---|
| 0 | Normal |
| 1 | At detection |

## 9.3.3 QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QS3] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QS3 |
| 1 | SERIAL | 15 byte | - - - - - - - - - - - - - - - |
| 2 | HOUR METER | 8 byte | 00000000 |
| 3 | TOTAL HR METER | 8 byte | 00000000 |
| 4 | PON COUNTER | 8 byte | 00000000 |
| 5 | TEMP1 acquisition (Temperature value) | 5 byte | +23.5 (*1) |
| 6 | TEMP0 acquisition (Temperature value) | 5 byte | +28.7 (*1) |
| 7 | MAX-TEMP1 acquisition (Temperature value) | 5 byte | +78.3 (*1) |
| 8 | Reserved | 4 byte | **** |
| CS | | 2 byte | 94 |

Note
(*1) : Centigrade scale

## 9.3.4 QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QAJ] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QAJ |
| 1 | V-SUS adjustment value | 3 byte | 128 |
| 2 | Vysnofs adjustment value | 3 byte | 128 |
| 3 | Vyprst adjustment value | 3 byte | 128 |
| 4 | Vxpofs1 adjustment value | 3 byte | 128 |
| 5 | Vxpofs2 adjustment value | 3 byte | 128 |
| 6 | Vyknofs1,2 adjustment value | 3 byte | 128 |
| 7 | Vyknofs3 adjustment value | 3 byte | 128 |
| 8 | Vyknofs4 adjustment value | 3 byte | 128 |
| 9 | R1K adjustment value | 3 byte | 128 |
| 10 | R2K adjustment value | 3 byte | 128 |
| 11 | Y1K adjustment value | 3 byte | 128 |
| 12 | Y1Z adjustment value | 3 byte | 128 |
| 13 | X1B adjustment value | 3 byte | 128 |
| 14 | Y2B adjustment value | 3 byte | 128 |
| 15 | X3B adjustment value | 3 byte | 128 |
| 16 | YSB adjustment value | 3 byte | 128 |
| 17 | XSB adjustment value | 3 byte | 128 |
| 18 | YTK adjustment value | 3 byte | 128 |
| 19 | YTZ adjustment value | 3 byte | 128 |
| 20 | Y2K adjustment value | 3 byte | 128 |
| 21 | Y2Z adjustment value | 3 byte | 128 |
| 22 | YNK adjustment value | 3 byte | 128 |
| 23 | YNZ adjustment value | 3 byte | 128 |
| 24 | R-REVISE setting value | 1 byte | 0 |
| 25 | G-REVISE setting value | 1 byte | 0 |
| 26 | B-REVISE setting value | 1 byte | 0 |
| 27 | ADDRESS 1, 2 setting value | 2 byte | 01 |
| 28 | ADDRESS 3, 4 setting value | 2 byte | 13 |
| 29 | ADDRESS 5, 6 setting value | 2 byte | 32 |
| 30 | ADDRESS 7, 8 setting value | 2 byte | 30 |
| 31 | Streaking correction | 1 byte | 1 |
| 32 | AM radio countermeasure | 1 byte | 1 |
| 33 | Reserved | 2 byte | ** |
| CS | | 2 byte | B7 |

| 31: Streaking correction | |
|---|---|
| 0 | OFF |
| n | n: 1 to 8 (Mode n) |

| 32: AM radio countermeasure | |
|---|---|
| n | n: 1 to 8 (SUS frequency n) |

## 9.3.5 QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPW] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPW |
| 1 | Drive sequence | 3 byte | 60V |
| 2 | Standard/nonstandard | 1 byte | S |
| 3 | Type of ABL/WB tables | 2 byte | T2 |
| 4 | ABL adjustment value | 3 byte | 128 |
| 5 | R-HIGH adjustment value | 3 byte | 256 |
| 6 | G-HIGH adjustment value | 3 byte | 256 |
| 7 | B-HIGH adjustment value | 3 byte | 256 |
| 8 | R-LOW adjustment value | 3 byte | 512 |
| 9 | G-LOW adjustment value | 3 byte | 512 |
| 10 | B-LOW adjustment value | 3 byte | 512 |
| 11 | R gamma setting | 2 byte | 31 |
| 12 | G gamma setting | 2 byte | 10 |
| 13 | B gamma setting | 2 byte | 10 |
| 14 | Streaking correction | 1 byte | 1 |
| 15 | Center luminance correction | 1 byte | 0 |
| 16 | Reserved | 1 byte | * |
| 17 | WB interlocked with APL | 1 byte | 0 |
| 18 | Transition of protective operations | 1 byte | 0 |
| 19 | Reserved | 2 byte | ** |
| CS | | 2 byte | 37 |

| 1: Drive sequence | |
|---|---|
| 50V | Video 50 Hz |
| 60V | Video 60 Hz |
| 72V | Video 72 Hz |
| 75V | Video 75 Hz |
| 60P | PC 60 Hz |

| 2: Standard/ nonstandard | |
|---|---|
| S | Standard |
| N | Nonstandard |

| 3: Type of ABL/WB tables | |
|---|---|
| Tn | n: 1 to 4 |

| 11, 12, 13: RGB Gamma setting | |
|---|---|
| n | 00 to 31 |

| 15: Center luminance correction | |
|---|---|
| 0 | OFF |
| 1 | ON |
| 2 | ON (interlocked with APL) |

| 17: WB interlocked with APL | |
|---|---|
| 0 | OFF |
| 1 | ON |
| 2 | WB interlocked ON/γ OFF |
| 3 | WB interlocked OFF/γ ON |

| 18: Transition of brightness by protective operations | |
|---|---|
| 0 | Upper limit state for brightness |
| 1 | Brightness being reduced |
| 2 | Lower limit state for brightness |
| 3 | Brightness being increased |

## 9.3.6 QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated number of pulses of the panel.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPM] | All operations | To acquire data on operations of the panel | Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPM |
| 1 | Pulse meter B 1 | 8 byte | 00000000 |
| 2 | Pulse meter B 2 | 8 byte | 00000000 |
| 3 | Pulse meter B 3 | 8 byte | 00000000 |
| 4 | Pulse meter B 4 | 8 byte | 00000000 |
| 5 | Pulse meter B 5 | 8 byte | 00000000 |
| CS | | 2 byte | E7 |

## 9.3.7 QPD (PD LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QPD] | All operations | To acquire data on the power-down logs | Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QPD |
| 1 | Latest "1st PD" data | 1 byte | A |
| 2 | Latest "2nd PD" data | 1 byte | 2 |
| 3 | Data from the hour meter for the latest PD | 8 byte | 00010020 |
| 4 | Second latest "1st PD" data | 1 byte | E |
| 5 | Second latest "2nd PD" data | 1 byte | 9 |
| 6 | Data from the hour meter for the second latest PD | 8 byte | 00008523 |
| 7 | Third latest "1st PD" data | 1 byte | 4 |
| 8 | Third latest "2nd PD" data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest PD | 8 byte | 00004335 |
| 10 | Fourth latest "1st PD" data | 1 byte | 2 |
| 11 | Fourth latest "2nd PD" data | 1 byte | 0 |
| 12 | Data from the hour meter for the fourth latest PD | 8 byte | 00000945 |
| 13 | Fifth latest "1st PD" data | 1 byte | 4 |
| 14 | Fifth latest "2nd PD" data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest PD | 8 byte | 00000715 |
| 16 | Sixth latest "1st PD" data | 1 byte | A |
| 17 | Sixth latest "2nd PD" data | 1 byte | 2 |
| 18 | Data from the hour meter for the sixth latest PD | 8 byte | 00000552 |
| 19 | Seventh latest "1st PD" data | 1 byte | A |
| 20 | Seventh latest "2nd PD" data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest PD | 8 byte | 00000213 |
| 22 | Eighth latest "1st PD" data | 1 byte | D |
| 23 | Eighth latest "2nd PD" data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest PD | 8 byte | 000001A7 |
| CS | | 2 byte | 27 |

| 1, 2, 4, 5: PD data | |
|---|---|
| 0 | No PD |
| 1 | Not used |
| 2 | P-POWER |
| 3 | SCAN |
| 4 | SCN-5V |
| 5 | Y-DRIVE |
| 6 | Y-DCDC |
| 7 | Y-SUS |
| 8 | Address |
| 9 | X-DRIVE |
| A | X-DCDC |
| B | X-SUS |
| C | DIG-DCDC |
| D | Not used |
| E | Not used |
| F | UNKNOWN |

## 9.3.8 QSD (SD LOGS)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSD] | All operations | To acquire data on the shutdown logs | Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 byte | QSD |
| 1 | Latest SD data | 1 byte | 1 |
| 2 | Latest SD subcategory data | 1 byte | 0 |
| 3 | Data from the hour meter for the latest SD | 8 byte | 00752013 |
| 4 | Second latest SD data | 1 byte | 5 |
| 5 | Second latest SD subcategory data | 1 byte | 0 |
| 6 | Data from the hour meter for the second latest SD | 8 byte | 00495204 |
| 7 | Third latest SD data | 1 byte | 2 |
| 8 | Third latest SD subcategory data | 1 byte | 3 |
| 9 | Data from the hour meter for the third latest SD | 8 byte | 00100355 |
| 10 | Fourth latest SD data | 1 byte | 2 |
| 11 | Fourth latest SD subcategory data | 1 byte | 5 |
| 12 | Data from the hour meter for the fourth latest SD | 8 byte | 00075620 |
| 13 | Fifth latest SD data | 1 byte | 1 |
| 14 | Fifth latest SD subcategory data | 1 byte | 0 |
| 15 | Data from the hour meter for the fifth latest SD | 8 byte | 00000852 |
| 16 | Sixth latest SD data | 1 byte | 2 |
| 17 | Sixth latest SD subcategory data | 1 byte | 5 |
| 18 | Data from the hour meter for the sixth latest SD | 8 byte | 000000451 |
| 19 | Seventh latest SD data | 1 byte | 0 |
| 20 | Seventh latest SD subcategory data | 1 byte | 0 |
| 21 | Data from the hour meter for the seventh latest SD | 8 byte | 00000000 |
| 22 | Eighth latest SD data | 1 byte | 0 |
| 23 | Eighth latest SD subcategory data | 1 byte | 0 |
| 24 | Data from the hour meter for the eighth latest SD | 8 byte | 00000000 |
| CS | | 2 Byte | 7D |

**• SD data**

| | |
|---|---|
| 0 | No SD |
| 1 | SQ_LSI |
| 2 | MDU-IIC |
| 3 | RST2 |
| 4 | TEMP |

**• SD subcategory (SQ_LSI)**

| | |
|---|---|
| 0 | No SD-Sub data |
| 1 | Communication error |
| 2 | Drive stop |
| 3 | BUSY |
| 4 | Version mismatching (H/S) |
| 5 | Version mismatching (M/S) |

**• SD subcategory (MDU-IIC)**

| | |
|---|---|
| 0 | No SD-Sub data |
| 1 | EEPROM |
| 2 | BACKUP |
| 3 | DAC1 |
| 4 | DAC2 |

**• SD subcategory (TEMP)**

| | |
|---|---|
| 0 | No SD-Sub data |
| 1 | TEMP1 (high temperature) |
| 2 | TEMP1 (low temperature) |

## 9.3.9 QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSE] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QSE |
| 1 | | Reserved | 4 byte | **** |
| 2 | | DTV Hardware Version | 4 byte | 0345 |
| 3 | | USER PASSWORD | 4 byte | 1234 |
| 4 | – | Check Sum | 2 byte | 03 |

## 9.3.10 QMT (TEMPERATURE / FAN ROTATION / ROOM LIGHT SENSOR)

Temperature information (TEMP2) / FAN rotation state / Room light sensor information on the MTB side is returned.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QMT] | Every time | Output of status | A/D value of MTB-side's temperature/FAN rotating status |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QMT |
| 1 | MTB | A/D value of MTB-side temperature | 3 byte | 267 |
| 2 | | MTB-side FAN rotating speed (0: STOP, 1: LOW, 2: HIGH) | 1 byte | 1 |
| 3 | | A/D value of room light sensor | 3 byte | 009 |
| 4 | | Level of room light sensor (Value: 1 to 5) | 1 byte | 5 |

## 9.3.11 QNG (SHUTDOWN INFORMATION OF MTB)

MTB side's shutdown information is acquired.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QNG] | Every time | Output of status | |

| Order | Part | Data Arrangement | Data Length | Output Example |
|---|---|---|---|---|
| 0 | – | Received Command name | 3 byte | QNG |
| 1 | MTB | 1st latest NG No. | 1 byte | 0 |
| 2 | | Subcategory No. for the 1st latest NG. | 1 byte | 0 |
| 3 | | MTB hour meter for the 1st latest NG. | 7 byte | 0000000 |
| 4 | | Reserved | 3 byte | Fixed on 000 |
| 5 | | 2nd latest NG No. | 1 byte | 0 |
| 6 | | Subcategory No. for the 2nd latest NG. | 1 byte | 0 |
| 7 | | MTB hour meter for the 2nd latest NG. | 7 byte | 0000000 |
| 8 | | Reserved | 3 byte | Fixed on 000 |
| 9 | | 3rd latest NG No. | 1 byte | 0 |
| 10 | | Subcategory No. for the 3rd latest NG. | 1 byte | 0 |
| 11 | | MTB hour meter for the 3rd latest NG. | 7 byte | 0000000 |
| 12 | | Reserved | 3 byte | Fixed on 000 |
| : | | : | : | |
| 29 | | 8th latest NG No. | 1 byte | 0 |
| 30 | | Subcategory No. for the 8th latest NG. | 1 byte | 0 |
| 31 | | MTB hour meter for the 8th latest NG. | 7 byte | 0000000 |
| 32 | | Reserved | 3 byte | Fixed on 000 |
| 33 | – | Check Sum | 2 byte | 00 |

**< SD Information No. >**

| Frequency * | Part | Part | Remarks (Operation) |
|---|---|---|---|
| 5 | MTB part | Shutdown signal from audio amp. / short-circuit of speaker terminal | Shutdown after 30 seconds warning |
| 6 | | Failure of communication with Module microcomputer | Immediately Shutdown |
| 7 | | 3-wire serial communication of Main microcomputer | Go to No. 7 Subcategory Information |
| 8 | | IIC communication failure of MTB side | Go to No. 8 Subcategory Information |
| 9 | | Communication failure of Main microcomputer | Immediately Shutdown |
| 10(A) | | Failure of FAN | Go to No. 10 Subcategory Information |
| 11(B) | | Abnormally in high temperature | Shutdown after 30 seconds warning |
| 12(C) | | Failure of Digital Tuner | Go to No. 12 Subcategory Information |
| 13(D) | | Failure of Power Supply at MTB side | Go to No. 13 Subcategory Information |
| 15(F) | | Failure of Main EEPROM | Immediately Shutdown |

*: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

**< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Communication error of IF microcomputer | Shutdown |
| 2 | Communication error of sequence processor | Shutdown |

**< No. 8 Subcategory Information on "Failure in IIC communication of MTB side" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | Tuner 1 | Shutdown |
| 2 | MSP/MAP | Shutdown |
| 3 | AV Switch | Shutdown |
| 4 | RGB Switch | Shutdown |
| 5 | VDEC | Shutdown |
| 6 | VDEC-SDRAM | Shutdown |
| 7 | AD/PLL | Shutdown |
| 8 | HDMI | Shutdown |
| D | COFDEM | Shutdown |

**< No. 10 Subcategory Information on "Abnormally in FAN" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | FAN 1 | Shutdown |
| 2 | FAN 2 (FHD only) | Shutdown |

**< No. 12 Subcategory Information on "Failure in Digital Tuner" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | DTV starting failure | Communication stop |
| 2 | DTV Antenna | Warning indication |

**< No. 13 Subcategory Information on "Failure in Power supply at MTB side" >**

| Value | Shutdown Factor | Remarks (Operation) |
|---|---|---|
| 1 | RST 2 | Shutdown |
| 2 | RST 4 | Shutdown |

## 9.3.12 QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [QSI] | All operations | To acquire all data on input video signals | Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte |

| Data Arrangement | | Data Length | Output Example |
|---|---|---|---|
| ECO | | 3 Byte | QSI |
| 1 | Type of drive sequence | 3 Byte | 60V |
| 2 | Standard/nonstandard | 1 Byte | S |
| 3 | Type of ABL/WB tables | 2 Byte | T1 |
| 4 | Total value of PCN | 4 Byte | 0256 |
| 5 | Total value of PRH | 4 Byte | 0256 |
| 6 | Total value of PGH | 4 Byte | 0256 |
| 7 | Total value of PBH | 4 Byte | 0256 |
| 8 | Total value of PBR | 4 Byte | 0512 |
| 9 | Total value of PRL | 4 Byte | 0512 |
| 10 | Total value of PGL | 4 Byte | 0512 |
| 11 | Total value of PBL | 4 Byte | 0512 |
| 12 | Total value of ABL | 3 Byte | 128 |
| 13 | Detection of V frequency | 4 Byte | 6002 |
| 14 | Reserved | 1 Byte | * |
| 15 | Reserved | 3 Byte | *** |
| 16 | Obtained APL data | 4 Byte | 1023 |
| 17 | Number of SUS pulses | 4 Byte | 0457 |
| 18 | Result of detection of still picture | 1 Byte | 1 |
| 19 | Result of detection of cracking in the panel | 1 Byte | 1 |
| 20 | Result of detection for scanning protection | 1 Byte | 1 |
| 21 | Result of detection for external protection | 1 Byte | 1 |
| 22 | Transition of protection operation | 1 Byte | 0 |
| 23 | Reserved | 4 Byte | **** |
| CS | | 2 Byte | 27 |

## 9.3.13 DRV (PANEL DRIVE-POWER ON / OFF)

Drive ON/OFF: ON/OFF control of panel drive-power system

| Command Format | Effective Operation Modes | Function | Remarks |
|---|---|---|---|
| [DRV+S00] | Every time | DRIVE OFF | At standby mode, when 10 seconds passed after issuing [DRV+S00], command becomes invalid. |
| [DRV+S01] | Every time | DRIVE ON (default) | |

Once the DRIVE OFF command is accepted, DRIVE OFF cannot be canceled by pressing the DRIVE OFF key again or by turning the unit off then back on with the STANDBY OFF/ON key.
To cancel DRIVE OFF, restart the unit by unplugging then again plugging in the power cord.

## 9.3.14 FAY / FAN (ADJ. COMMANDS PERMISSION / PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

| Command Format | Operation | | Remarks |
|---|---|---|---|
| | Effective Operation Modes | Control | |
| [FAY] | Normal operation mode while the power is on | Adjustment command is valid. | For details, refer to the section “6.1.3 FUNCTIONS WHEN RNTERING THE SERVICE FACTORY MODE.” |
| [FAN] | During FAY | Adjustment command is invalid. | |

## 9.3.15 FAJ / UAJ / CBU / BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

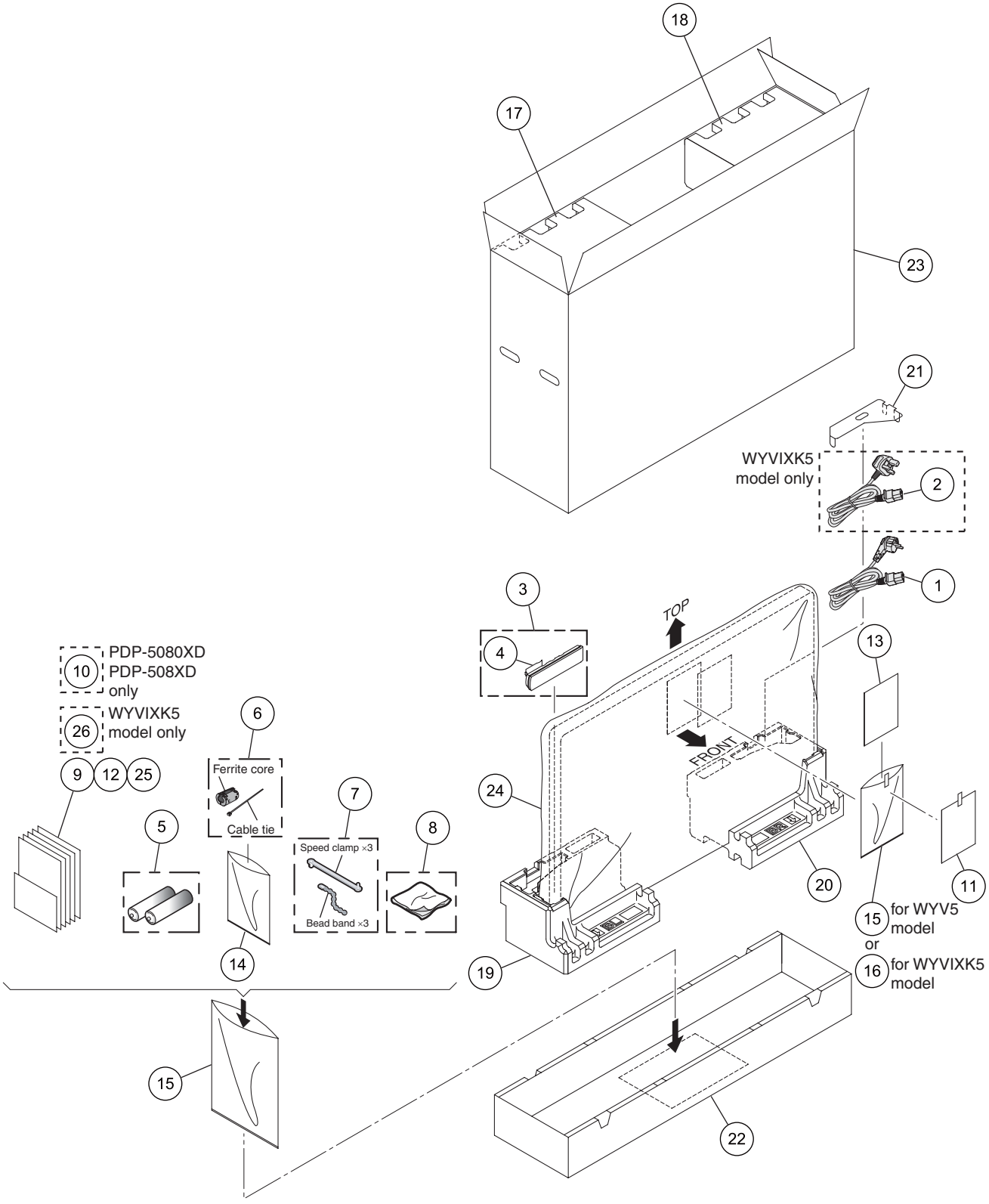
When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

| Command Format | Operation | | | Remarks |
|---|---|---|---|---|
| | Effective Operation Modes | Control | | |
| [FAJ] | During FAY | To make the flag setting that indicating that adjustment of the panel unit has been completed | Writing 00 to the 4 k byte ROM and copying to the 2 k byte ROM | This takes at least 350 mS. |
| [UAJ] | | To make the flag setting that indicating that adjustment of the main unit has not been completed | Writing F0 to the 4 k byte ROM | |
| [CBU] | | To make the flag setting that indicating that backup data have not been copied | Writing F0 to the 2 k byte ROM | The backup ROM is initialized. |
| [BCP] | | To copy Digital backup data to EEPROM | Copying backup data | |

# 10. EXPLODED VIEWS AND PARTS LIST

*NOTES:*
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

## 10.1 PACKING SECTION



## (1) PACKING SECTION PARTS LIST

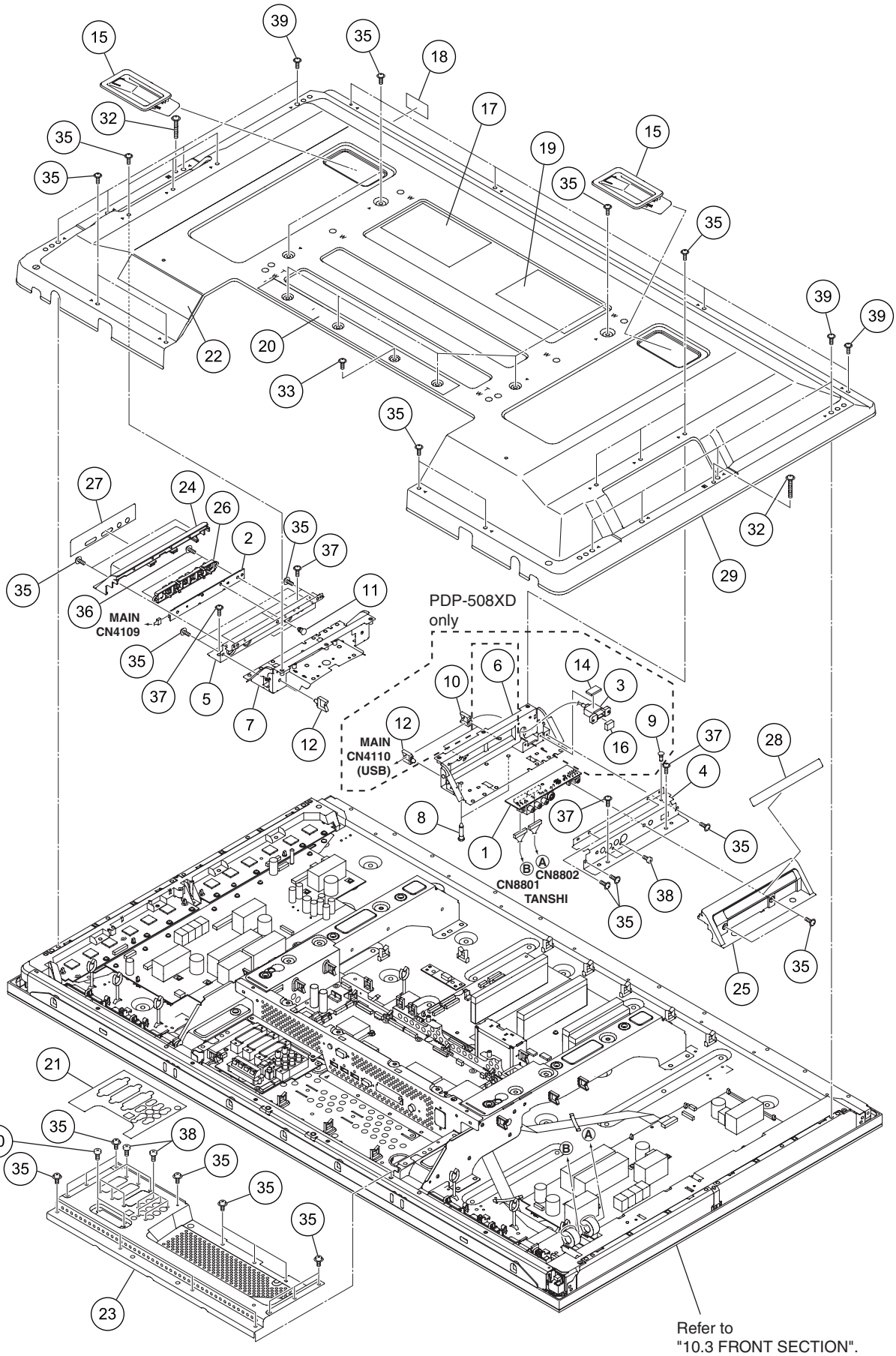
| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | Power Cord (2 m) | ADG1214 |
| ⚠ | 2 | Power Cord (2 m) | See Contrast table (2) |
| | 3 | Remote Control Unit | See Contrast table (2) |
| | 4 | Battery Cover | See Contrast table (2) |
| NSP | 5 | Dry Cell Battery (R06, AA) | VEM1031 |
| ⚠ | 6 | Ferrite Core (L5321) | ATX1039 |
| | 7 | Binder Assy | AEC1908 |
| | 8 | Cleaning Cloth | AED1285 |
| | 9 | Operating Instructions (English, French, German) | See Contrast table (2) |
| | 10 | Operating Instructions (Italian, Spanish, Dutch) | See Contrast table (2) |
| | 11 | Caution Card | See Contrast table (2) |
| | 12 | Cleaning Caution | See Contrast table (2) |
| NSP | 13 | Warranty Card | ARY1114 |
| | 14 | Polyethylene Bag | AHG1337 |
| NSP | 15 | Catalogue Bag | AHG1340 |
| | 16 | Polyethylene Bag | See Contrast table (2) |
| | 17 | Pad (507 T-L) | See Contrast table (2) |
| | 18 | Pad (507 T-R) | See Contrast table (2) |
| | 19 | Pad (507 B-L) | See Contrast table (2) |
| | 20 | Pad (507 B-R) | See Contrast table (2) |
| | 21 | Power Cord Lid | See Contrast table (2) |
| | 22 | Under Carton (507) | See Contrast table (2) |
| | 23 | Upper Carton | See Contrast table (2) |
| | 24 | Mirror Mat | See Contrast table (2) |
| | 25 | After Image Caution | See Contrast table (2) |
| | 26 | Block Diagram | See Contrast table (2) |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| ⚠ | 2 | Power Cord (2 m) | Not used | ADG1223 | Not used | ADG1223 | Not used | ADG1223 |
| | 3 | Remote Control Unit | AXD1553 | AXD1553 | AXD1552 | AXD1552 | AXD1551 | AXD1551 |
| | 4 | Battery Cover | AZA7424 | AZA7424 | AZA7424 | AZA7424 | AZN2626 | AZN2626 |
| | 9 | Operating Instructions (English, French, German) | ARE1478 | ARE1477 | ARE1485 | ARE1476 | ARE1484 | ARE1475 |
| | 10 | Operating Instructions (Italian, Spanish, Dutch) | Not used | Not used | ARC1602 | ARC1587 | ARC1601 | ARC1586 |
| | 11 | Caution Card | ARM1232 | ARM1310 | ARM1232 | ARM1310 | ARM1232 | ARM1310 |
| | 12 | Cleaning Caution | ARM1283 | ARM1311 | ARM1283 | ARM1311 | ARM1283 | ARM1311 |
| | 16 | Polyethylene Bag | Not used | AHG1326 | Not used | AHG1326 | Not used | AHG1326 |
| | 17 | Pad (507 T-L) | AHA2538 | AHA2558 | AHA2538 | AHA2558 | AHA2538 | AHA2558 |
| | 18 | Pad (507 T-R) | AHA2539 | AHA2559 | AHA2539 | AHA2559 | AHA2539 | AHA2559 |
| | 19 | Pad (507 B-L) | AHA2540 | AHA2560 | AHA2540 | AHA2560 | AHA2540 | AHA2560 |
| | 20 | Pad (507 B-R) | AHA2541 | AHA2561 | AHA2541 | AHA2561 | AHA2541 | AHA2561 |
| | 21 | Power Cord Lid | AHC1085 | AHC1087 | AHC1085 | AHC1087 | AHC1085 | AHC1087 |
| | 22 | Under Carton (507) | AHD3473 | AHD3498 | AHD3473 | AHD3498 | AHD3473 | AHD3498 |
| | 23 | Upper Carton (5080XA) | AHD3605 | AHD3620 | Not used | Not used | Not used | Not used |
| | 23 | Upper Carton (5080XD) | Not used | Not used | AHD3642 | AHD3604 | Not used | Not used |
| | 23 | Upper Carton (508XD) | Not used | Not used | Not used | Not used | AHD3646 | AHD3603 |
| | 24 | Mirror Mat | AHG1284 | AHG1327 | AHG1284 | AHG1327 | AHG1284 | AHG1327 |
| | 25 | After Image Caution | ARM1350 | ARM1349 | ARM1350 | ARM1349 | ARM1350 | ARM1349 |
| | 26 | Block Diagram | Not used | ARY1202 | Not used | ARY1202 | Not used | ARY1202 |

# 10.2 REAR SECTION



## (1) REAR SECTION PARTS LIST

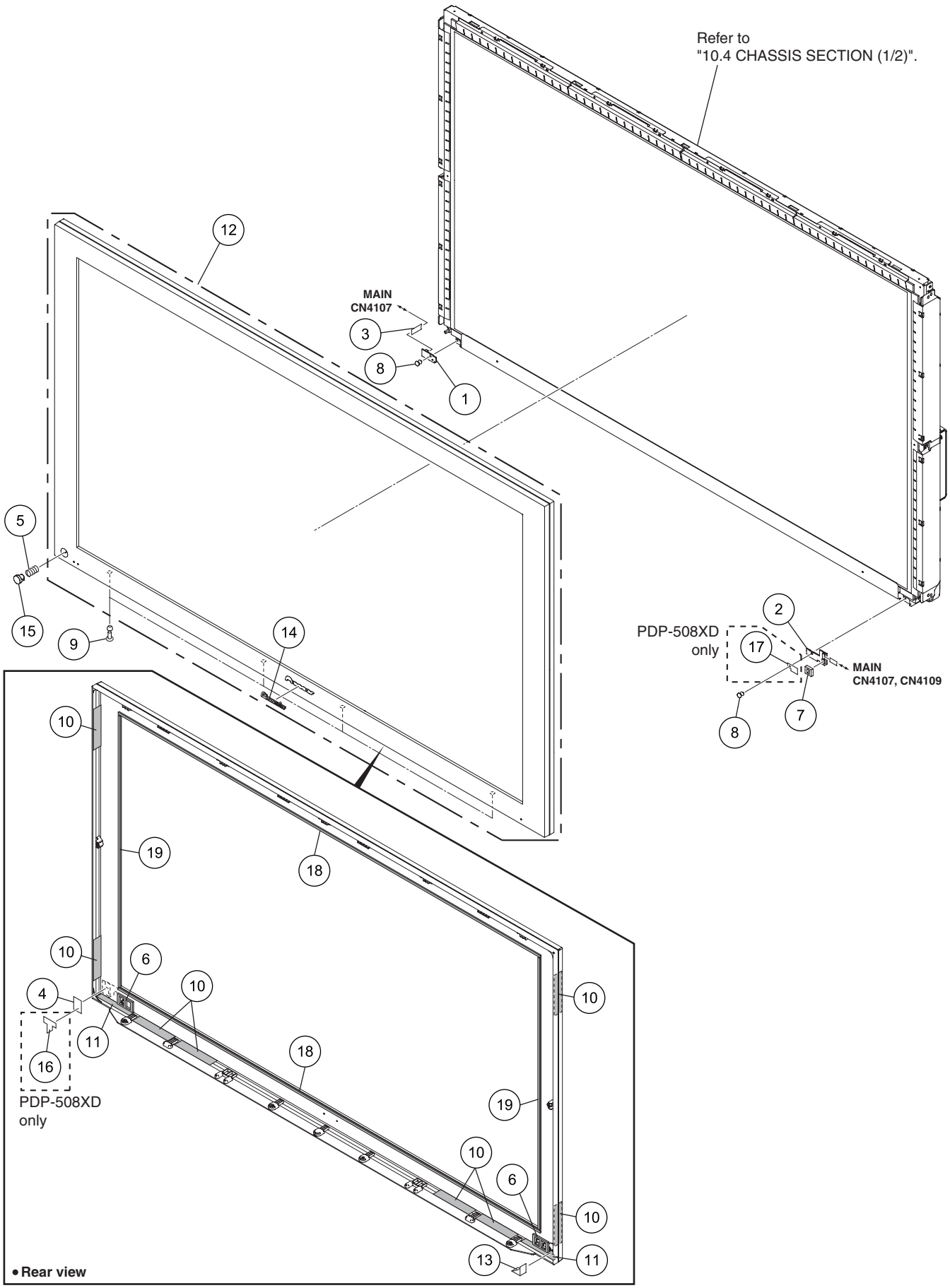
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | SIDE IO Assy | AWW1253 |
| | 2 | SIDE KEY Assy | AWW1286 |
| | 3 | USB Cable (J301) | See Contrast table (2) |
| | 4 | Side Input Panel | See Contrast table (2) |
| | 5 | Function Button Base | See Contrast table (2) |
| | 6 | Side Input Shield | See Contrast table (2) |
| | 7 | Function Button Shield | See Contrast table (2) |
| | 8 | Spacer | AEC1288 |
| | 9 | PCB Spacer | See Contrast table (2) |
| | 10 | Re-use Wire Saddle | See Contrast table (2) |
| | 11 | Locking Card Spacer | AEC2019 |
| | 12 | Re-use Wire Saddle | AEC2118 |
| | 13 | ••••• | |
| | 14 | USB Spacer A | See Contrast table (2) |
| | 15 | Inner Grip Assy | See Contrast table (2) |
| ⚠ | 16 | Gasket (USB) | See Contrast table (2) |
| NSP | 17 | Name Label | See Contrast table (2) |
| | 18 | Serial Sheet | AAX3143 |
| | 19 | Bolt Caution Label (E) | AAX3533 |
| | 20 | Label A | See Contrast table (2) |
| | 21 | Label B50 | See Contrast table (2) |
| | 22 | Label C | See Contrast table (2) |
| | 23 | Terminal Panel B | See Contrast table (2) |
| | 24 | Function Button Panel | AMB2906 |
| | 25 | Side Input Cover | AMB2911 |
| | 26 | Function Button | AAC1565 |
| | 27 | Function Button Sheet | AAK2896 |
| | 28 | Input Cover Label E | See Contrast table (2) |
| | 29 | Rear Case (508) | ANE1666 |
| | 30 | ••••• | |
| | 31 | ••••• | |
| | 32 | Screw (3 x 40P) | ABA1332 |
| | 33 | Screw | ABA1341 |
| | 34 | ••••• | |
| | 35 | Screw | AMZ30P060FTB |
| | 36 | Screw | AMZ30P080FTC |
| | 37 | Screw | APZ30P080FTB |
| | 38 | Screw | BPZ30P080FTB |
| | 39 | Screw | TBZ40P080FTB |
| | 40 | Screw | BPZ30P100FTB |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 3 | USB Cable (J301) | Not used | Not used | Not used | Not used | ADF1034 | ADF1034 |
| | 4 | Side Input Panel (8E) | ANC2461 | ANC2458 | ANC2461 | ANC2458 | Not used | Not used |
| | 4 | Side Input Panel (8ES) | Not used | Not used | Not used | Not used | ANC2460 | ANC2459 |
| | 5 | Function Button Base | ANG2923 | ANG3066 | ANG2923 | ANG3066 | ANG2923 | ANG3066 |
| | 6 | Side Input Shield | ANK1834 | ANK1938 | ANK1834 | ANK1938 | ANK1834 | ANK1938 |
| | 7 | Function Button Shield | ANK1835 | ANK1939 | ANK1835 | ANK1939 | ANK1835 | ANK1939 |
| | 9 | PCB Spacer | Not used | Not used | Not used | Not used | AEC1570 | AEC1570 |
| | 10 | Re-use Wire Saddle | Not used | Not used | Not used | Not used | AEC1945 | AEC1945 |
| | 14 | USB Spacer A | Not used | Not used | Not used | Not used | AED1317 | AED1317 |
| | 15 | Inner Grip Assy | AMR3434 | AMR3693 | AMR3434 | AMR3693 | AMR3434 | AMR3693 |
| ⚠ | 16 | Gasket (USB) | Not used | Not used | Not used | Not used | ANK1846 | ANK1846 |
| NSP | 17 | Name Label (5080XA) | AAL2938 | AAL2944 | Not used | Not used | Not used | Not used |
| NSP | 17 | Name Label (5080XD) | Not used | Not used | AAL3001 | AAL2940 | Not used | Not used |
| NSP | 17 | Name Label (508XD) | Not used | Not used | Not used | Not used | AAL3005 | AAL2942 |
| | 20 | Label A (EA) | AAX3479 | AAX3479 | Not used | Not used | Not used | Not used |
| | 20 | Label A (ED) | Not used | Not used | AAX3480 | AAX3480 | AAX3480 | AAX3480 |
| | 21 | Label B50 (ERA) | AAX3541 | AAX3541 | Not used | Not used | Not used | Not used |
| | 21 | Label B50 (ERD) | Not used | Not used | AAX3542 | AAX3542 | Not used | Not used |
| | 21 | Label B50 (ESD) | Not used | Not used | Not used | Not used | AAX3543 | AAX3543 |
| | 22 | Label C (ERA) | AAX3502 | AAX3502 | Not used | Not used | Not used | Not used |
| | 22 | Label C (ERD) | Not used | Not used | AAX3503 | AAX3503 | Not used | Not used |
| | 22 | Label C (ESD) | Not used | Not used | Not used | Not used | AAX3504 | AAX3504 |
| | 23 | Terminal Panel B (50ER) | ANC2453 | ANC2453 | ANC2453 | ANC2453 | Not used | Not used |
| | 23 | Terminal Panel B (50ES) | Not used | Not used | Not used | Not used | ANC2454 | ANC2454 |
| | 28 | Input Cover Label E | AAX3375 | AAX3396 | AAX3375 | AAX3396 | Not used | Not used |
| | 28 | Input Cover Label 8ES | Not used | Not used | Not used | Not used | AAX3510 | AAX3510 |

# 10.3 FRONT SECTION



## (1) FRONT SECTION PARTS LIST

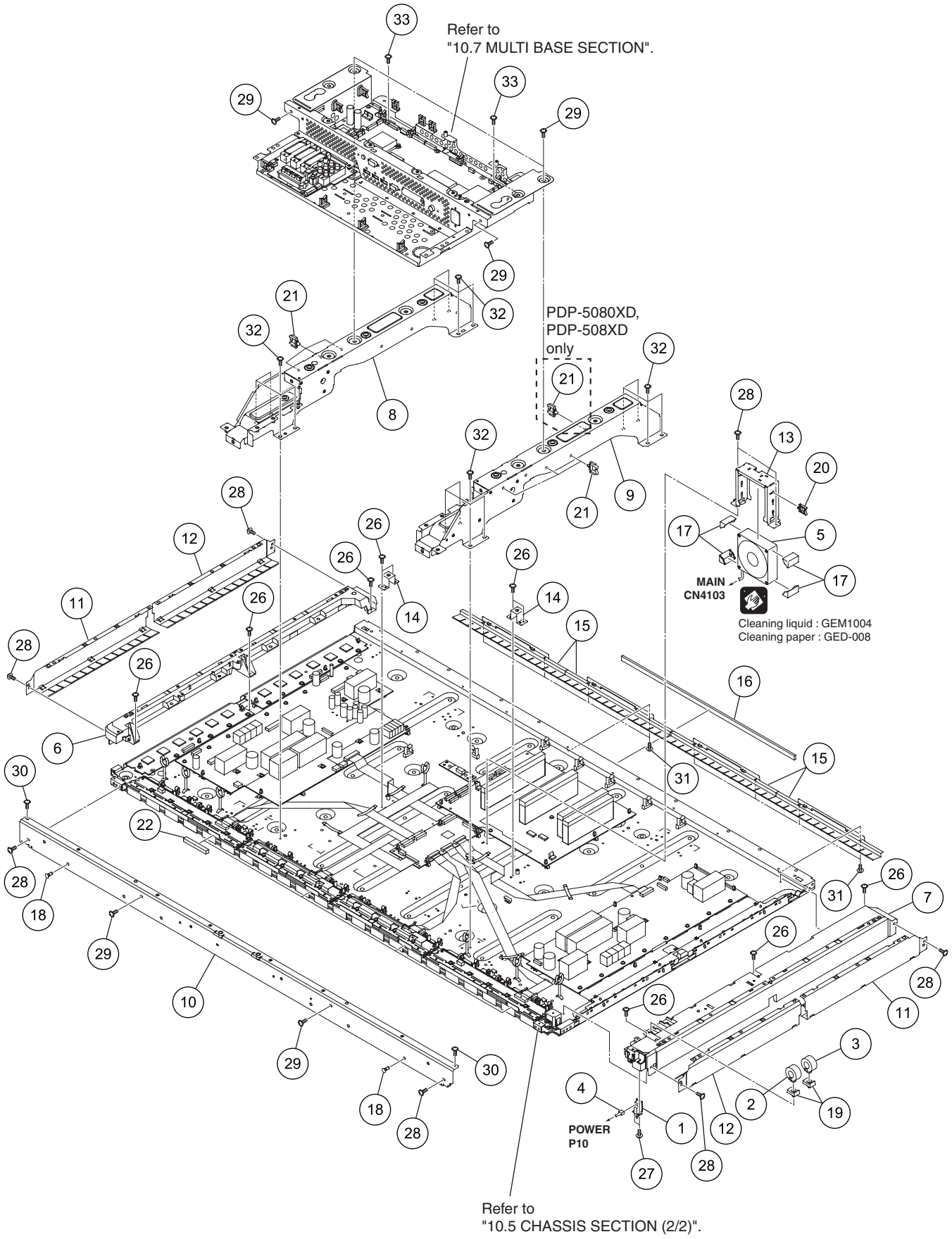
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50XGA LED Assy | AWW1280 |
| | 2 | 50LED&IR Assy | See Contrast table (2) |
| | 3 | 3P Housing Wire (J116) | ADX3529 |
| | 4 | IR Reducer | See Contrast table (2) |
| | 5 | Coil Spring | See Contrast table (2) |
| | 6 | Blind Cushion | AEB1415 |
| | 7 | IR Block Cushion | AEB1465 |
| | 8 | Nylon Rivet | AEC1671 |
| | 9 | Rivet | AEC1877 |
| | 10 | Insulation Sheet A | AED1283 |
| | 11 | Insulation Sheet B | See Contrast table (2) |
| | 12 | Front Case Assy | See Contrast table (2) |
| | 13 | Corner Cushion | AEB1416 |
| | 14 | Pioneer Name Plate (50) | AAM1116 |
| | 15 | Power Button | See Contrast table (2) |
| | 16 | Sensor Cushion (508) | See Contrast table (2) |
| | 17 | Sensor Filter | See Contrast table (2) |
| NSP | 18 | Panel Cushion H (50) | AED1320 |
| NSP | 19 | Panel Cushion V (50) | AED1321 |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 2 | 50LED&IR Assy | AWW1283 | AWW1283 | AWW1283 | AWW1283 | AWW1281 | AWW1281 |
| | 4 | IR Reducer | AAX3455 | AAX3455 | AAX3455 | AAX3455 | AAX3552 | AAX3552 |
| | 5 | Coil Spring | ABH1125 | ABH1125 | ABH1125 | ABH1125 | ABH1128 | ABH1128 |
| | 11 | Insulation Sheet B | AED1284 | AED1284 | AED1284 | AED1284 | AED1325 | AED1325 |
| | 12 | Front Case Assy (5080XA) | AMB3033 | AMB3033 | Not used | Not used | Not used | Not used |
| | 12 | Front Case Assy (5080XD) | Not used | Not used | AMB3032 | AMB3032 | Not used | Not used |
| | 12 | Front Case Assy (508XD) | Not used | Not used | Not used | Not used | AMB3025 | AMB3025 |
| | 15 | Power Button (B) | AAD4154 | AAD4154 | AAD4154 | AAD4154 | Not used | Not used |
| | 15 | Power Button (E) | Not used | Not used | Not used | Not used | AAD4153 | AAD4153 |
| | 16 | Sensor Cushion (508) | Not used | Not used | Not used | Not used | AEB1487 | AEB1487 |
| | 17 | Sensor Filter | Not used | Not used | Not used | Not used | AAK2926 | AAK2926 |

# 10.4 CHASSIS SECTION (1/2)



## (1) CHASSIS SECTION (1/2) PARTS LIST

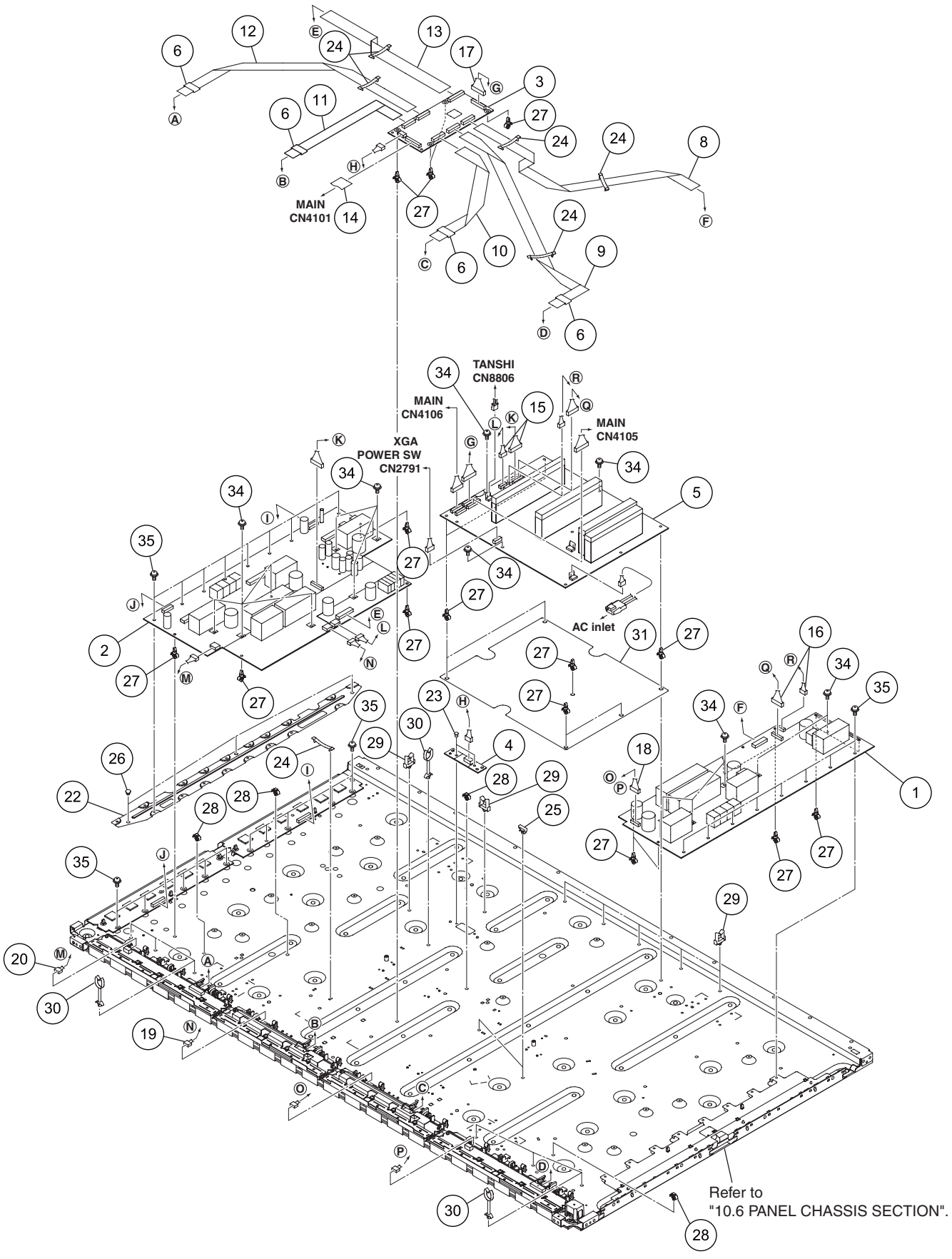
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | XGA POWER SW Assy | AWW1261 |
| | 2 | Ferrite Core (L1) | ATX1044 |
| | 3 | Ferrite Core (F10) | ATX1060 |
| | 4 | Housing Wire (J103) | ADX3521 |
| ⚠ | 5 | Fan Motor 80 x 25L | AXM1057 |
| | 6 | Front Chassis VL (50) | AMA1014 |
| | 7 | Front Chassis VR 508 | AMA1029 |
| | 8 | Sub Frame L Assy 507 | See Contrast table (2) |
| | 9 | Sub Frame R Assy 507 | See Contrast table (2) |
| | 10 | Front Chassis H Assy (508) | ANA2106 |
| ⚠ | 11 | Panel Holder V1 (50) | ANG2770 |
| ⚠ | 12 | Panel Holder V2 (50) | ANG2771 |
| | 13 | Fan Holder | ANG2833 |
| | 14 | Multi Base Holder | ANG2937 |
| ⚠ | 15 | Panel Holder H (508) | ANG3087 |
| | 16 | Waterproof Cushion | AEB1424 |
| | 17 | Floating Rubber 80 | AEB1427 |
| | 18 | PCB Spacer | AEC1570 |
| | 19 | Ferrite Core Holder | AEC1818 |
| | 20 | Re-use Wire Saddle | AEC1945 |
| | 21 | Re-use Wire Saddle | AEC2118 |
| ⚠ | 22 | Address Gasket (42) | ANK1877 |
| | 23 | ••••• | |
| | 24 | ••••• | |
| | 25 | ••••• | |
| | 26 | Screw | ABA1351 |
| | 27 | Screw | ABA1370 |
| | 28 | Screw | ABZ30P080FTC |
| | 29 | Screw | AMZ30P060FTB |
| | 30 | Screw | APZ30P080FTB |
| | 31 | Screw | BBZ30P060FTC |
| | 32 | Screw | TBZ40P080FTB |
| | 33 | Screw | ABA1364 |

## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| | 8 | Sub Frame L Assy 507 | ANA1945 | ANA2080 | ANA1945 | ANA2080 | ANA1945 | ANA2080 |
| | 9 | Sub Frame R Assy 507 | ANA1946 | ANA2081 | ANA1946 | ANA2081 | ANA1946 | ANA2081 |

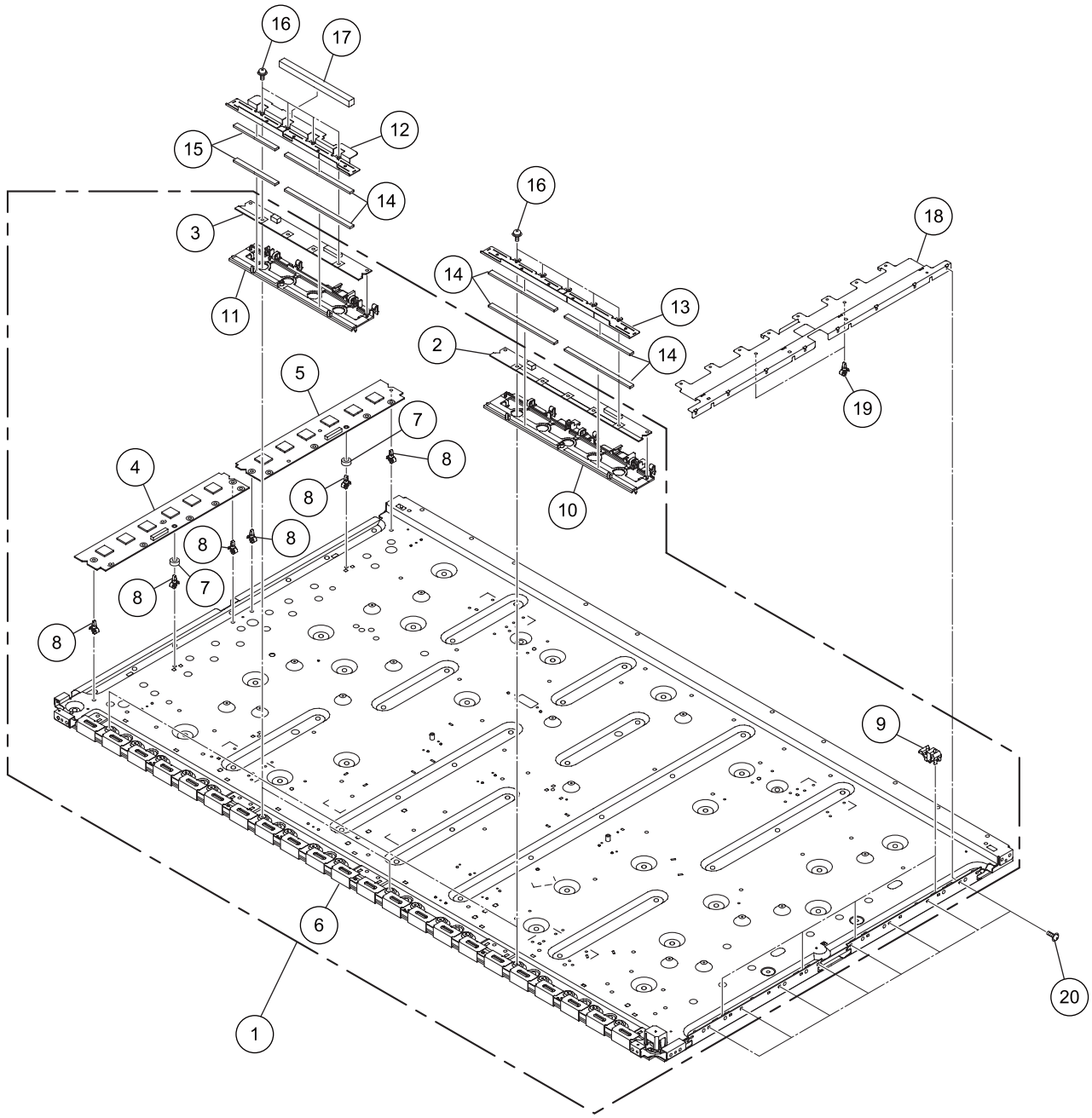
# 10.5 CHASSIS SECTION (2/2)



## CHASSIS SECTION (2/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | 50 X DRIVE Assy | AWV2447 |
| | 2 | 50 Y DRIVE Assy | AWW1260 |
| | 3 | 50 DIGITAL Assy | AWW1270 |
| | 4 | SENSOR Assy | AWW1272 |
| ⚠ | 5 | POWER SUPPLY Unit | AXY1157 |
| | 6 | Ferrite Core (F1 - F4) | ATX1048 |
| | 7 | ••••• | |
| | 8 | Flexible Cable (J201) | ADD1476 |
| | 9 | Flexible Cable (J202) | ADD1477 |
| | 10 | Flexible Cable (J203) | ADD1478 |
| | 11 | Flexible Cable (J204) | ADD1479 |
| | 12 | Flexible Cable (J205) | ADD1480 |
| | 13 | Flexible Cable (J206) | ADD1481 |
| | 14 | Flexible Cable (J211) | ADD1482 |
| | 15 | 9P&6/5P Housing Wire (J101) | ADX3519 |
| | 16 | 8P&5P Housing Wire (J102) | ADX3520 |
| | 17 | 14P&5P Housing Wire (J104) | ADX3522 |
| | 18 | 8P/4P Housing Wire (J108) | ADX3525 |
| | 19 | 4P Housing Wire (J109) | ADX3526 |
| | 20 | 4P Housing Wire (J110) | ADX3527 |
| | 21 | ••••• | |
| | 22 | Conductive Plate Y (508) | ANG3083 |
| | 23 | Nylon Rivet | AEC1671 |
| | 24 | Flat Clamp | AEC1879 |
| | 25 | Locking Wire Saddle | AEC1948 |
| | 26 | Card Spacer | AEC1957 |
| | 27 | PCB Spacer (Re-use) | AEC1941 |
| | 28 | Re-use Card Spacer | AEC2117 |
| | 29 | Re-use Wire Saddle | AEC2118 |
| | 30 | Re-use HL 28 | AEC2119 |
| ⚠ | 31 | Power Sheet (8G) | AMR3708 |
| | 32 | ••••• | |
| | 33 | ••••• | |
| | 34 | Screw | ABA1351 |
| | 35 | Screw | ABA1364 |

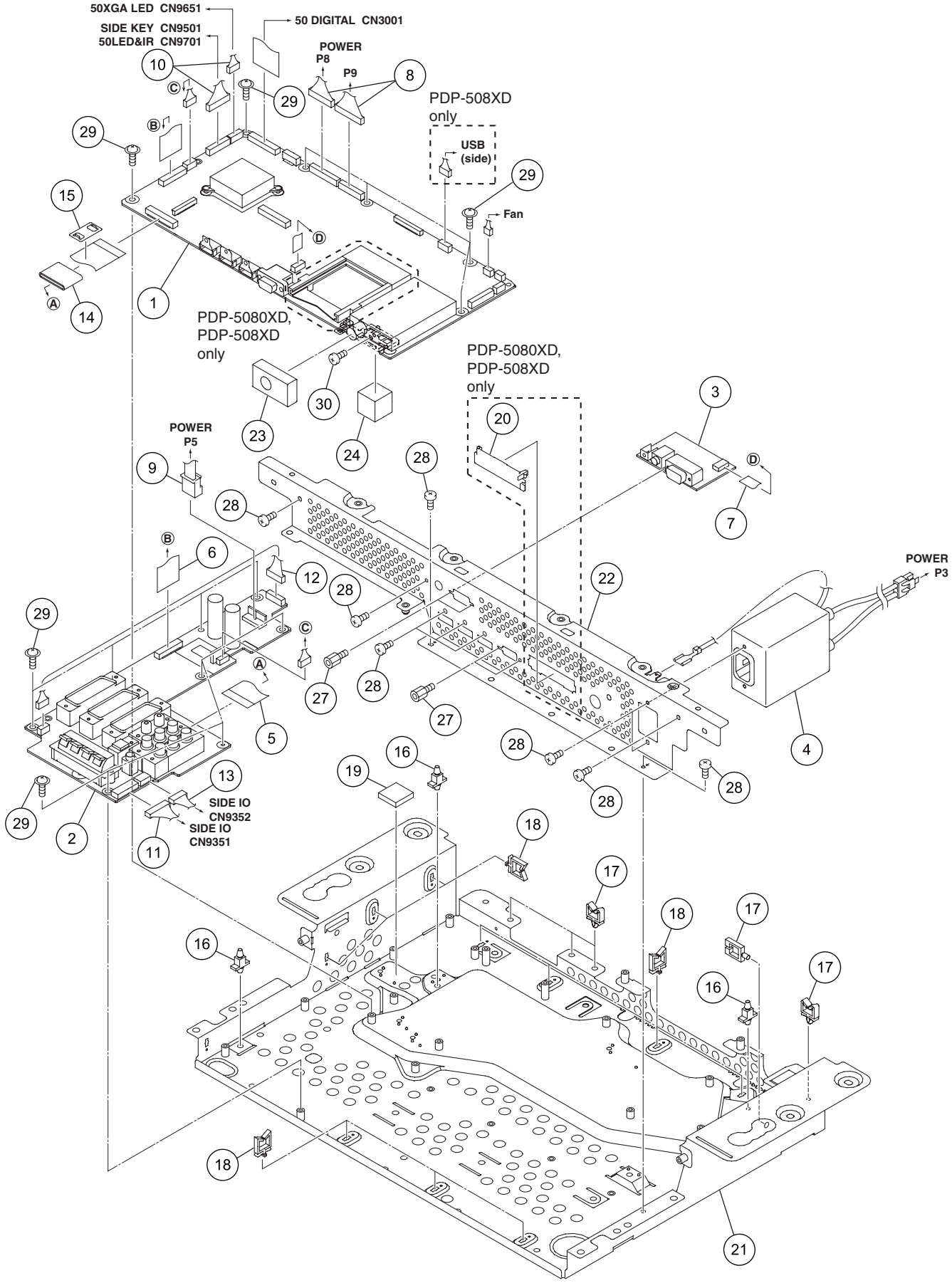
# 10.6 PANEL CHASSIS SECTION



## PANEL CHASSIS SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (508) Assy | AWU1248 |
| NSP | 2 | 50 ADDRESS L Assy | AWW1264 |
| NSP | 3 | 50 ADDRESS S Assy | AWW1265 |
| NSP | 4 | 50 SCAN A Assy | AWW1268 |
| NSP | 5 | 50 SCAN B Assy | AWW1269 |
| NSP | 6 | Plasma Panel (508) Assy | AWU1249 |
| | 7 | Insulation Bushing 1.5 | AEB1482 |
| | 8 | PCB Spacer | AEC1944 |
| | 9 | Conductive Plate Holder | AMR3446 |
| | 10 | Address Holder Assy A (508) | AMR3716 |
| | 11 | Address Holder Assy B (508) | AMR3717 |
| | 12 | Address Plate A (508) | ANG3085 |
| | 13 | Address Plate B (508) | ANG3086 |
| | 14 | Address Silicone A (508) | AEH1146 |
| | 15 | Address Silicone A | AEH1093 |
| | 16 | Screw | ABA1351 |
| ⚠ | 17 | Gasket AD | ANK1948 |
| | 18 | Conductive Plate X | ANG3081 |
| | 19 | PCB Spacer | AEC2087 |
| | 20 | Screw | ABA1364 |

# 10.7 MULTI BASE SECTION



## (1) MULTI BASE SECTION PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| ⚠ | 1 | MAIN Assy | See Contrast table (2) |
| | 2 | TANSHI Assy | See Contrast table (2) |
| | 3 | 232C Assy | AWW1254 |
| ⚠ | 4 | AC Inlet (CN1) | AKP1316 |
| | 5 | Flexible Cable (J212) | ADD1441 |
| | 6 | Flexible Cable (J213) | ADD1491 |
| | 7 | Flexible Cable (J217) | ADD1494 |
| | 8 | 12P&15P Housing Wire (J106) | ADX3523 |
| | 9 | 5P Housing Wire (J107) | ADX3524 |
| | 10 | 6/11/3/8/4P Housing Wire (J114) | ADX3528 |
| | 11 | 11P Housing Wire (J118) | ADX3530 |
| | 12 | 8P/4P Housing Wire (J119) | ADX3531 |
| | 13 | 5P Housing Wire (J125) | ADX3533 |
| | 14 | Ferrite Core | ATX1064 |
| | 15 | Ferrite Stopper | AEC1981 |
| | 16 | Locking Card Spacer | AEC1429 |
| | 17 | Wire Saddle | AEC1745 |
| | 18 | Re-use Wire Saddle | AEC1945 |
| | 19 | Silicone Sheet Audio | AEH1143 |
| | 20 | POD Cover | See Contrast table (2) |
| | 21 | Multi Base Assy (J) | ANA2103 |
| | 22 | Terminal Panel A | See Contrast table (2) |
| ⚠ | 23 | Gasket FE | ANK1945 |
| | 24 | Gasket EC | ANK1954 |
| | 25 | ••••• | |
| | 26 | ••••• | |
| | 27 | Hex. Head Screw | BBA1051 |
| | 28 | Screw | BMZ30P060FTB |
| | 29 | Screw | PMB30P080FNI |
| | 30 | Screw | ABA1354 |

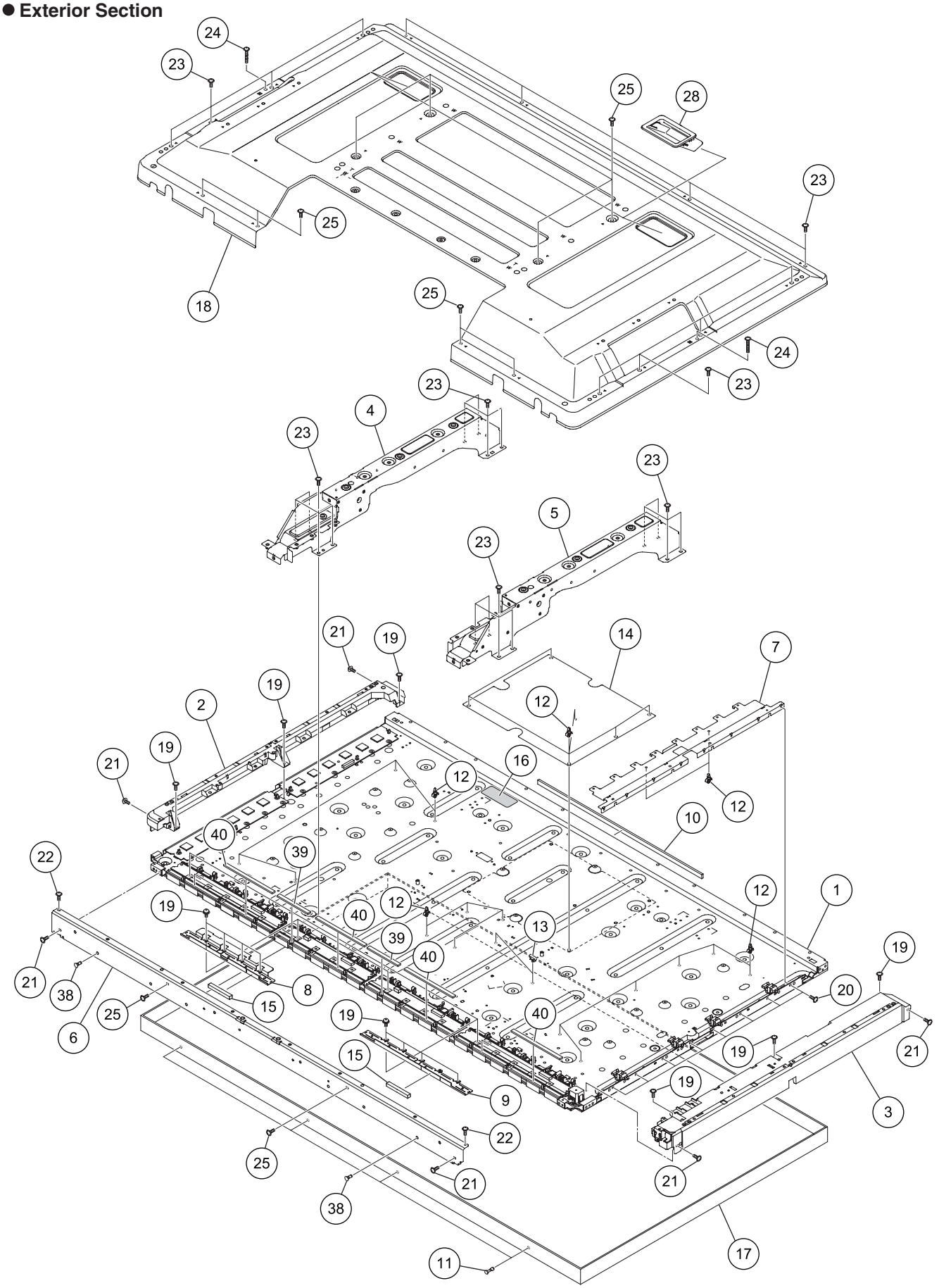
## (2) CONTRAST TABLE

PDP-5080XA/WYV5, WYVIXK5, PDP-5080XD/WYV5, WYVIXK5, PDP-508XD/WYV5 and WYVIXK5 are constructed the same except for the following:

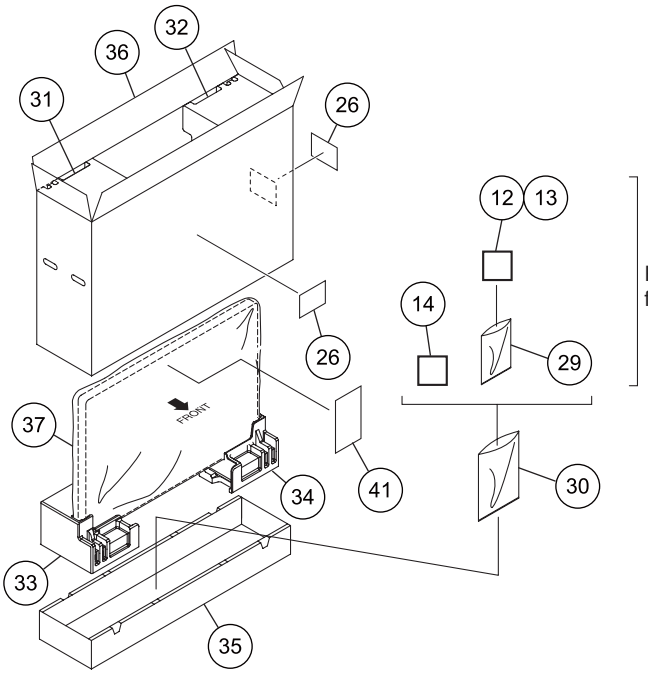
| Mark | No. | Symbol and Description | PDP-5080XA /WYV5 | PDP-5080XA /WYVIXK5 | PDP-5080XD /WYV5 | PDP-5080XD /WYVIXK5 | PDP-508XD /WYV5 | PDP-508XD /WYVIXK5 |
|---|---|---|---|---|---|---|---|---|
| ⚠ | 1 | MAIN Assy | AWV2463 | AWV2463 | AWV2462 | AWV2462 | AWV2461 | AWV2461 |
| | 2 | TANSHI Assy | AWW1252 | AWW1252 | AWW1250 | AWW1250 | AWW1248 | AWW1248 |
| | 20 | POD Cover | Not used | Not used | AMR3542 | AMR3542 | AMR3542 | AMR3542 |
| | 22 | Terminal Panel A (EA) | ANC2442 | ANC2442 | Not used | Not used | Not used | Not used |
| | 22 | Terminal Panel A (ED) | Not used | Not used | ANC2441 | ANC2441 | ANC2441 | ANC2441 |

# 10.8 PDP SERVICE ASSY 508

● **Exterior Section**



## ● Packing Section




## PDP SERVICE ASSY 508 PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Panel Chassis (508) Assy | AWU1248 |
| | 2 | Front Chassis VL (50) | AMA1014 |
| | 3 | Front Chassis VR (508) | AMA1029 |
| | 4 | Sub Frame L Assy 507 | ANA1945 |
| | 5 | Sub Frame R Assy 507 | ANA1946 |
| | 6 | Front Chassis H Assy (508) | ANA2106 |
| | 7 | Conductive Plate X (508) | ANG3081 |
| | 8 | Address Plate A (508) | ANG3085 |
| | 9 | Address Plate B (508) | ANG3086 |
| | 10 | Waterproof Cushion | AEB1424 |
| | 11 | Rivet | AEC1877 |
| | 12 | PCB Spacer | AEC1941 |
| | 13 | Locking Wire Saddle | AEC1948 |
| ⚠ | 14 | Power Sheet (8G) | AMR3708 |
| ⚠ | 15 | Address Gasket (42) | ANK1877 |
| NSP | 16 | Drive Voltage Label | ARW1097 |
| NSP | 17 | Front Case Assy (507 service) | AMB2977 |
| | 18 | Rear Case (508) | ANE1666 |
| | 19 | Screw | ABA1351 |
| | 20 | Screw | ABA1364 |
| | 21 | Screw | ABZ30P080FTC |
| | 22 | Screw | APZ30P080FTB |
| | 23 | Screw | TBZ40P080FTB |
| | 24 | Screw (3 x 40P) | ABA1332 |
| | 25 | Screw | AMZ30P060FTB |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 26 | Caution Label | AAX3031 |
| | 27 | ••••• | |
| | 28 | Inner Grip Assy | AMR3434 |
| | 29 | Polyethylene Bag S | AHG1338 |
| | 30 | Catalogue Bag | AHG1340 |
| | 31 | Pad (507 T-L) | AHA2538 |
| | 32 | Pad (507 T-R) | AHA2539 |
| | 33 | Pad (507 B-L) | AHA2540 |
| | 34 | Pad (507 B-R) | AHA2541 |
| | 35 | Under Carton (507) | AHD3473 |
| | 36 | Upper Carton (507 service) | AHD3550 |
| | 37 | Protect Sheet | AHG1331 |
| | 38 | PCB Spacer | AEC1570 |
| | 39 | Address Silicone A | AEH1093 |
| | 40 | Address Silicone A (508) | AEH1146 |
| | 41 | Caution Sheet (8G service) | ARM1369 |

**Changed contents**

| Suffix | Applied Page or Title | Revision | Date |
|---|---|---|---|
| 002 | Coversheet | Deleted the description of the reference service manual. | June 22, 2007 |